DOCUMENT RESUME

ED 226 113 CE 034 612

AUTHOR Epler, Doris M.
TITLE Teachers' Perceptions of Predicted Career Success of Students Who Choose Nontraditional Occupational Careers.
PUB DATE 82
NOTE 134p.; Ed.D. dissertation, Temple University.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Achievement; Case Studies; Labor Force; *Nontraditional Occupations; *Prediction; Questionnaires; Secondary Education; *Sex Bias; Sex Discrimination; *Sex Stereotypes; *Success; Surveys; *Teacher Attitudes; Vocational Education
IDENTIFIERS Pennsylvania

ABSTRACT

A study analyzed the way teachers perceive potential employment success for nontraditional students. The study population consisted of a stratified random selection of 120 non-vocational and 64 vocational teachers from schools in Berks County, Pennsylvania. To measure the teachers' sex bias and dogmatism, the researcher used a case study approach. The teachers were asked to predict the career success of four sets of hypothetical students who aspired to careers listed in the United States Office of Education's publication "Nontraditional Vocational Careers." Two of the careers (cosmetology and health assistant) were considered nontraditional for boys in secondary situations, and the other two (auto mechanics and masonry) were chosen as careers that are nontraditional for girls. Among those items examined in the survey were the background of the teachers, their openmindedness, and their predictions of the students' career success in both good and bad economic times. Data revealed that the teachers who held the highest degrees exhibited the most dogmatic and sex-biased behaviors. Other factors linked to higher levels of bias were higher socioeconomic status of the teachers' mothers and employment in an urban environment. Generally, the teachers perceived success for the male nontraditional students more consistently than for the females. (MN)

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TEACHERS' PERCEPTIONS OF PREDICTED CAREER SUCCESS OF STUDENTS WHO CHOOSE NONTRADITIONAL OCCUPATIONAL CAREERS

by

Doris M. Epler

A dissertation
submitted to the Temple University Graduate
Board in partial fulfillment of the
requirements for the degree of
Doctor of Education

1982

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ACKNOWLEDGEMENTS

This study was conducted under the guidance of Dr. Adele F. Schrag, Department of Vocational Education, Temple University. She was my mentor, my professor and my friend. Her considerat on, patience and understanding made this dissertation possible.

Dr. Leroy Olson, Department of Education Administration, Temple University, graciously served on my committee and I wish to extend my thanks for his contributions to the completion of this study.

Special appreciation is extended to Dr. Calvin J. Cotrell, Director of the Graduate Leadership Development Program at Temple University, for always "being there" and providing me with a shining example to follow. Dr. Amos Rivell, Chairman of the Department of Vocational Education, Temple University, and one of my first college professors, will long be remembered for his faith and encouragement 'way back when' I was just beginning my college education.

And, my dear friends, Dr. Richard Adamsky, Temple University and Dr. Susan Smith, for the time they spent helping me understand the world of statistics.

DEDICATION

This study is dedicated to my husband M. Robert Epler. Without his faith and belief in me, the completion of this work would never have been possible. Through all adversity, he never lost faith in education and those devoted to helping 'kids'.

He may be gone, but he will never be forgotten. Thank you with all my heart Bob, I miss you.

"The principle which regulates the existing relations between the sexes is wrong in itself and is now one of the chief hinderances to human improvement: and it ought to be replaced by a principle of perfect equality, admitting no power or privi-ledge on the one side, nor disability on the other."

--John Stuart Mill, 1867

The Subjection of Women

CHAPTER I

INTRODUCTION

On November 7, 1967, the United Nations adopted the "Declaration of the Elimination of Discrimination Against Women". Article 3 stipulates: "All appropriate measures shall be taken to educate public opinion and to direct national aspirations towards the eradication of prejudice and the abolition of customary and all other practices which are based on the ideas of the inferiority of women". But, at the United Nations Conference on Women held in Copenhagen, Denmark, in July of 1980, a document was presented which maintained that the economic crises of the 1979's has settled on women's shoulders and indicated that women are worse off than before (Reading Eagle, July 13, 1980). Females account for half of the world's population, but put in 2/3rds of the world's working hours; they receive only 1/10th of world income, and own only 1/100th of its property. Although middle-class women have made some educational gains, these have not been matched by an increase in suitable jobs.

Title VII of the Civil Rights Act of 1964 prohibits discrimination against the beneficiaries of federal money on the basis of race, color and natural origin, but not sex. The first federal law in the United States prohibiting sex discrimination among students did not become effective until November 18, 1971, when Title VII and VIII of the Public Health Service Act were amended to prohibit sex discrimination in admissions to federally funded health training programs.

Title IX of the Education Amendments of 1972 (PL92-318, 1972 as amended PL93-568, 1974) states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the

benefits of, or be subjected to discrimination under any educational program or activity receiving federal financial assistance" (Federal Register, 1975, p. 24128).

But, it was not until 1976 that women were given equal rights with men in pursuing vocational education opportunities. Public Law 94-482, the Education Amendments of 1975, Section 101, 104.2 states "to develop and carry out such programs of vocational education within each State so as to overcome sex discrimination and sex stereotyping in vocational education programs (including programs of homemaking) and thereby furnish equal opportunities in vocational education to persons of both sexes..".

Sex Stereotyping and Sex Discrimination

Sex discrimination, as defined by Smith (1977) is that which is against the law, while sex bias is the underlying network of assumptions that says men and women should be different, not only physically, but also in their tastes, talents and interests (Lehmann, 1977). Sex stereotyping is learned behavior. It begins with assumptions about the differences between males and females which allow boys and girls to reach conclusions about themselves which are not true, and the acceptance of these assumptions allows them to be channeled into restrictive roles that limit their life choices (Carmichael, 1977; Guttentag and Bray, 1976; Korda, 1973; Kreps, 1971).

Many parents have firm ideas of what constitutes appropriate masculine and feminine characteristics and behaviors, and they positively reinforce in their children those behaviors that they themselves value (Carmichael, 1977; Guttentag and Bray, 1976). Children are subjected to further stereotyping when they enter school. Students quickly become

cognizant of the many ways which girls and boys are treated differently within the educational system (Guttentag and Bray, 1976; Levitan and Chananie, 1972; Pottker and Fishel, 1977).

Even though the law is very specific (in fact, sex discrimination can be punished by loss of funds for a school district), educators have been slow in helping to tear down the barriers which exist for students who choose an educational program geared towards an occupational career which is not considered to be traditional for their sex (Pennsylvania Advisory Council on Vocational Education, 1978; Pennsylvania Commission for Women, 1978; Pennsylvania Department of Education, 1972; Pottker and Fishel, 1977; Price and Borgers, 1977).

In 1975 Nasstrom and Baker replicated a 1957 study designed to examine the attitude toward vocational education held by secondary principals and superintendents in Indiana. The findings indicate that a larger percentage of the Seventies' administrators believed that women should be allowed to enroll in vocational industrial training programs than those from the Fifties. While this support increased from 51% in 1957 to 83% in 1975, 11% of the administrators were undecided about women being allowed to enroll (Nasstrom and Baker, 1979).

Most students make crucial decisions concerning their life styles during their high school years, and the sex bias and sex stereotyping they are subjected to during these years can be detrimental to them. Students are sensitive to the many ways in which a teacher communicates approval or disapproval (Brooking, 1978; Levitan and Chananie, 1972; Pottker and Fishel, 1977). Females, in particular, are considerably influenced by their perception of the male attitude towards them, and since vocational education is predominately male-controlled, vocational teachers can play a vital role in influencing a girl's decision to pursue

an education in a nontraditional occupational area (Sexton, 1976). In 1977, ten years after the United Nations adopted the "Declaration of the Elimination of Discrimination Against Women", and five years after the Education Amendments of 1972 stipulated that no person shall be discriminated against in any educational program that receives federal funds, a survey conducted by the Pennsylvania Advisory Council on Vocational Education revealed that vocational educators in Pennsylvania still held very traditional views of what was appropriate sex-related behavior, and that the male teachers held more stereotypical views than the female teachers (Pennsylvania Advisory Council on Vocational Education, 1978).

Socialization is effective in discouraging both boys and girls from choosing and preparing for nontraditional careers and teachers are an influential factor in that socialism (Brooking, 1978). Many policy makers, in their haste to make the world a better place, are impatient for social change. Social change, the ultimate purpose of social policy, is a long, delicate and arduous phenomenon (Lipman-Blumen and Beruard, 1979).

Learning in a classroom is influenced by what teachers do in their interactions with students and what teachers do is based on their beliefs and their expectations for individuals and groups (Braun, Neilsen, and Dykstra, 1975). This affects how the teacher communicates with the students. This communication can be dichotomous in nature since teachers, through preservice and in-service professional development activities, should be aware of the legislation to eliminate sex bias, but still hold their own perceptions and expectations for boys and girls (Braun et al. 1975; Guttentag and Bray, 1976; Levitan and Chananie, 1972; Pennsylvania Department of Education, 1972).

With the avowed goals of educators in mind, teachers should lead the way in helping society to accept and learn new behaviors in order to accommodate major changes in attitudes deemed necessary for the survival of that society (Korda, 1973; Stock, 1978). Idealistically, educators should be exhibiting these types of behaviors within their own ranks; realistically however, statistics prove that they are not. The percentage of females holding administrative posts within the school system continues to decrease each year (Kay, 1978; Pennsylvania Commission of Women, 1978). According to the latest professional personnel report published by the Pennsylvania Department of Education, there are 6,483 people within the Commonwealth who hold administrative positions in the public schools; only 792 of these are held by women. And, although the average level of education for both is six years, and the average number of years of service for both is 20 years, the average salary for the men exceeds that of the women by $1,300 per year. In vocational education the gap in numbers is even more pronounced. Across the Commonwealth there are 88 Directors of Vocational Education; only one of these is a woman (Pennsylvania Department of Education, 1979).

Stereotypical patterns can also be found within the teaching staff of most vocational-technical schools. Males and females are instructing in occupational areas considered to be traditional for their sex. While some males can be found as instructors in cosmetology, other traditional occupational areas for females are poorly represented by male instructors (Pennsylvania Advisory Council on Vocational Education, 1978).

The gap also exists in institutions of higher learning. The average salary of a male professor in 1978 was $19,313; for women it was 17.5% lower, $15,941. Fifteen years after they receive doctorates, women PhD's earn 13 to 23 percent less than their male colleagues (ASCD Update, 1980).

Statement of the Problem

It has been some 15 years since the federal government has become involved in stipulating that educators must cease practicing sex discrimination and sex bias. Discrimination however, can be fought in courts of law, while sex bias, which is a learned behavior that assumes one sex is superior to the other, (Federal Register, 1977) cannot.

Students are considerably influenced by how their teachers perceive them (Balzer, Evans and Blosser, 1973; Guttentag and Bray, 1976; Vetter et al., 1979) and teachers are consistently seen by both sexes as most influential in making occupational career choices (Longstrom, 1973). Students should be allowed to select careers on the basis of their interests and aptitudes rather than on the basis of their sex (Vetter et al., 1977); in fact, the law stipulates that this must be done. But, in order for students to be able to overcome sex stereotyping barriers, they need a network of support systems (Pennsylvania Commission for Women, 1978). The educational system, while only one part of this network, can play a significant role in this effort by a commitment of all its parties to the eradication of sex stereotyping and sex bias (Lewis and Kaltreider, 1976).

"...major changes in sex socialization and sex stereotyping patterns will have to occur before desegregation of training is likely to be eliminated" (Kane and Frazee, 1978, p. 40).

The problem, therefore, is to determine if teachers, despite their own personal biases, are able to perceive success for students who make an occupational career choice which is considered to be nontraditional for their sex. Such evidence is necessary in order to ascertain if teachers are contributing positively or negatively to the support system which is needed by the nontraditional students.

Purpose of the Study

"Children absorb and incorporate into their self-assignment and value systems, information from parents and teachers about appropriate sex role standards;" (Guttentag and Bray, 1976, p. 16) and since teachers, by their interactions with students, have a great influence over the decisions made by students, it is important to determine if teachers are able to perceive success for students who choose nontraditional occupational careers.

The purpose of this study, therefore, is to determine if differences exist in the way teachers perceive potential employment success for nontraditional students. These findings may have implications regarding whether or not a major change in sex stereotyping patterns might be occurring within the educational system.

Research Question

Teachers play a vital role in the decisions made by students when choosing an occupational career (Longstrom, 1973). However, teachers are seen as perceiving the nontraditional student as holding values not acceptable (Brooking, 1978; Nasstrom and Baker, 1979; Panko, 1979; Pennsylvania Advisory Council, 1978; Sexton, 1976).

Economic conditions do not remain stable. There are periods of time when unemployment is low and a labor shortage exists in the available labor supply; while at other times, unemployment is high and the nation is faced with a labor surplus.

Educators, in order to address the problems inherent in providing opportunities for boys and girls to select and pursue learning experiences in the occupations of their choice, must become aware of factors

which may be contributing to the development of covert sex bias attitudes resulting in overt sex discriminatory behaviors. Therefore, the following research question is examined:

Can differences in the way teachers react to students' potential for employment success under good or bad economic conditions be accounted for by differences in their personal/situational characteristics?

Definitions

For the purpose of this study, the following definitions of terms are used:

Career Success:

Being able to take advantage of the occupational opportunities and economic benefits within a given occupational cluster (Parnes, 1978).

Occupational Career Choice:

A vocational course chosen with the objective of obtaining employment within the hierarchy of that occupational cluster (Pennsylvania Advisory Council, 1978).

Open-closed Mindedness:

The ability or inability to accept change (Rokeach, 1960).

Nontraditional Occupations:

Occupations which traditionally have had a participation rate of at least 75% of the opposite sex from the one who is pursuing that occupation (Kane et al., 1976).

Perception:

The process of becoming aware of objects, qualities, or relations by the way of the sense organs and involving sensory, cue selection, and translations (Simpson, 1966).

Sex Bias:

Behaviors resulting from the assumption that one sex is superior to the other (Federal Register, 1977).

Sex Discrimination:

Any action which limits or denies a person or group of persons opportunities, privileges, roles or rewards on the basis of sex (Federal Register, 1977).

Sex Stereotyping

Attributing behaviors, abilities, interests, values and roles to a person or group of persons on the basis of sex (Federal Register, 1977).

Traditional Occupations:

Occupations which traditionally have had a participation rate of at least 75% of the same sex as the one who is pursuing that occupation (Kane et al., 1976).

Delimitations

This study does not include samples of inventories of students who have chosen careers which are not part of the course offerings of the area vocational-technical schools. Excluded therefore, are occupational careers in such areas as business education, useful home economics and agriculture.

This study does not attempt to identify the basis of the perceptions held by the teachers of students choosing traditional or nontraditional careers, but merely attempts to identify if these perceptions differ and whether any differences exist between these perceptions and the personal demographics and backgrounds of the teachers involved in the study.

Limitations

This study is limited to the extent of the subject's individual bias regarding participation in research studies.

Since the study required subjects to read sample results of an occupational inventory taken by hypothetical students, limitations will be found in the individual's ability to conceptualize the situations as presented.

Bias regarding the validity of occupational inventory predicting factors, as well as the participant's ability to appreciate and comprehend an occupational interest based on a stated stanine score supported by interpretive data, also place limitations on the study.

This study can be replicated easily for use in other geographical locations, but the findings of this study should be considered to be generalizable only in similar settings.

Significance of the Study

Although some progress has been made in a number of schools, in most cases considerable change remains to be made if full compliance to the law (sex discrimination) and progress towards changing attitudes of appropriate sex role behavior (sex bias) are to be intergrated and reflected throughout the policies, programs and practices of our educational institutions (U.S. Department of H.E.W., 1979).

Many schools are implementing workshops for their teachers in an attempt to deal with sex equity compliance rules and regulations. Changing the sex bias of these same teachers, however, presents further complications. Sex bias is a learned behavior which begins at birth (Katz, 1979). Therefore, if change is desired in a learned behavior, it must be realized that this is a process and cannot be accomplished through

mandated laws.

This study could have an impact on such activities by determining if sex bias exists among the vocational and nonvocational teachers, the level of the bias, and if any differences exist between this bias, their demographic backgrounds, and the perceptions they hold regarding career success for those students who choose nontraditional occupational careers.

Concern has also been expressed regarding the slow desegregation of vocational classes (Pennsylvania Advisory Council on Vocational Education, 1978; Pennsylvania Commission of Women, 1978) and, since teachers are seen as having a great influence over the career choices made by students, (Longstrom, 1973) the findings of this study might help those who are responsible for such desegregation determine if teachers are demonstrating positive or negative attitudes towards the non-traditional student.

Although literature is replete with information which confirms that sex bias does exist and rarely changes through intervention techniques, (Katz, 1979) educators must not only respond to the mandated laws, but also to the needs and wants of their students. Teachers must become aware of the magnitude of the sex bias problem and the ramifications that such bias has on the future of their students. In order to help teachers respond to the needs of students and uphold the law, factors which may be contributing to sex bias and dogmatic behaviors must be identified. The findings of this study may be beneficial to teachers as well as those who plan behavioral modification programs.

This study can readily be replicated for use with larger populations or areas with different environmental factors.

CHAPTER II

STATE OF THE ART

"Neither biological drives or organ inferiorities determine sex stereotyping. Nor has it been attributed to cognitive development. It is built into the process of establishing gender identification which begins at birth and continues throughout life" (Katz, 1979, p. 156). It is the result of the "dynamic sociopsychological" situation of the child who is surrounded by such mediating forces as schools, peers, and mass media (Guttentag and Bray, 1976).

Johnson (1963) maintains that very little is known about the extent of variation in the behavior of fathers and mothers towards sons and daughters, and even less about the possible effects of such differential treatment. Freud placed emphasis on the anatomical differences between males and females; the effect of which is supposed to make a boy proud of his status and a girl dissatisfied with hers (Brown, 1972).

Money's 1972 study indicates that the nurturing of gender role is so strong that role-identity is permanently indelible and imprinted, and subsequently as irreversible as if preordained. The cultural period of gender imprinting is in early childhood. By the age of 6, major realignment of gender role and identity is rare (Money, 1972).

The concept of "masculine protest", which means that girls perceive the greater prestige of boys and envy them to the extent that they strive to achieve masculine status, is part of our masculine-centered society (Brown, 1972). This seems to create a paradox since, although more restricted in most other respects, girls are allowed more freedom in sex-role learning. This is, however, consistent with the idea of grant-

ing males greater superiority. Therefore, it is more acceptable for girls to want to be like boys than the reverse.

There is abundant naturalistic observation to suggest that vocational aspirations are sex-typed at an early age and are very resistant to manipulation (Holland, 1975). Early attitudinal development of sex-appropriate career patterns indicate the pervasive and imbedded quality of sex-role stereotyping (Diamond, 1975). Parents positively reinforce those behaviors they appreciate in their children and negatively reinforce those behaviors they do not value. The concept of masculine and feminine characteristics is fixed in the parent's mind, and actual child behaviors are compared with those ideal sex-role models (Guttentag and Bray, 1976; Duncan and Duncan, 1978).

Schau and Bausch (1979) conducted a study which involved 89 white and 34 Spanish-language heritage children ranging in age from 2 1/2 to 6 1/2. These children were from the lower and middle class and they responded to two cognitive measures designed to indicate sex-typing. The results of this study indicate that the girls believed that women should perform the female jobs for them while the boys were neutral. Boys believed that men should perform the male jobs for them while the girls were neutral. The older the children were, the more pronounced this finding became. Overall, the study revealed that the children viewed the female items as applying to both sexes, but the male items as applying to boys only.

Studies reported on by Guttentag and Bray (1976) indicate that maternal employment did not significantly differentiate between stereotyped and non-stereotyped elementary children. And, even more interestingly, children with working mothers did not absorb the idea that occupations for women are valuable.

In a study conducted by Levitan and Chananie (1972) which paired hypothetical boys and girls who showed characteristics of dependency, aggression, or achievement, teachers were asked how much they approved of the student, how much they liked the student and how typical the student was. The data indicate that the dependent male received less approval than the dependent female, and the aggressive male and dependent female were acknowledged to be fairly typical. Teachers liked the achieving girl and the dependent girl more than the dependent male.

Students are aware of the many obvious and some of the subtle ways girls are treated differently from boys. Gander and Gaite (1973) found that students are aware of the preferential treatment of girls by teachers in discipline matters and that boys have greater opportunities to participate in athletics. Girls were more liberal in sex stereotyping than boys, but boys showed much more conservatism about vocations.

A nationwide study by Prediger et. al., (1975) found that the vocational preference of more than 50% of the girls surveyed in the 11th grade fell in only 3 of the 25 job families--education and social services, nursing and human care, and clerical/secretarial work--while only 7% of the boys indicated these preferences. Because of its direct link with employment, vocational education is getting much of the blame for the sex bias that exists in job training and recruiting efforts (Lehmann, 1977). During 1976-77, in Pennsylvania's secondary schools, 58% of the students who were enrolled in vocational education were girls, but over 37% of these girls were enrolled in programs listed as "Useful Home Economics". Girls were concentrated in a limited number of courses within the wide range that is available. Only 11% of the girls enrolled in vocational-technical programs were in areas considered to be technical

or trade and industrial. And, of that 11%, over 50% were taking only two of the 80 curricula offered; cosmetology and data processing. Sex segregated and sex stereotyped classes and activities exist at all levels of education in the Commonwealth of Pennsylvania (Pennsylvania Commission of Women, 1978, Pennsylvania Department of Education, 1972). However, the September 1980 statistics released by the National Center for Education, reflect an increase in nontraditional enrollments for both males and females nationwide. Smith (1981) states that more important than the increase in numbers nationwide, is the apparent change in attitudes towards nontraditional students.

Sex discrimination, though weakened by changing mores and being pushed by law, has made little progress towards removing sex bias. The young woman who wants vocational training in a nontraditional skilled trade, or the young man interested in pursuing a career considered traditional for females only, are still considered to be "weird" or even "freaks" (Lehmann, 1977).

In the fall of 1973, Eli Whitney Vocational High School in New York, began a program requiring all 9th grade students to spend one month in each of the 10 vocational training areas offered at the school. The theory behind this program was that the student would be better prepared to choose a career on the basis of interest and aptitude rather than according to sex stereotypes (Lehmann, 1977). The results of this program have been disappointing since they have experienced only a slight increase in the numbers of students who are choosing nontraditional career areas.

"New Pioneers Project to Eliminate Sex Bias in Occupational Education" was a pilot program offered at public schools in North Carolina and was designed to emphasize the need for both sexes to plan for a

lifetime when choosing careers. Boys learned about fields like nursing and child development, while girls learned aspects of the skilled trades. Again, the results were disappointing since only a relatively small number of females entered the nontraditional areas and even fewer boys entered areas considered nontraditional for males. The program has since been discontinued because of lack of funding (Smith, 1977).

A project which began in 1980 in Covington, Kentucky, requires all first year students (usually 9th grade) interested in vocational education, to spend two weeks in each of the ten vocational offerings. However, it is much too early to gather any reliable statistics regarding the ramifications of this exposure to both traditional and nontraditional occupational careers.

Lewis and Kaltweider (1976) conducted a study involving vocational teachers and sex stereotyping. They found that while there was little overt resistance from the male faculty members to having females in their classes, neither did there appear to be much enthusiasm. Most of the vocational teachers did not consider equal opportunities for females an issue of concern, and they had few ideas about, or an awareness of, how vocational education could be used to increase the probability of job success for nontraditional students. "The data indicate that many current practices in vocational education reflect the prevalent sex stereotyping" (Lewis and Kaltweider, 1976, p. 39).

In a 1977 survey of vocational educators in Pennsylvania, data indicate that educators have very traditional views of what is appropriate sex-related behavior and that men hold more sex stereotype views than women do (Pennsylvania Advisory Council, 1978). The attitude that boys should be encouraged to prepare for certain occupations and girls for others permeates all layers of the vocational education system (Lehmann,

1977). The problem exists of involving instructors in vocational education who have very strong values and hold very strong union-work relations (Pennsylvania Advisory Council, 1978).

Although much of the literature emphasizes the harmful effects of sexism in relation to women, it is important to remember that sex bias limits the potential of all people, both males and females (Price and Borgers, 1977). The most blatant damaging form of sex-role education is the channeling of members of each sex into restrictive roles that limit the life options and behavorial choices for both males and females (Pottker and Fishel, 1977). The issue is much broader than which sex is preparing for which job; it is whether vocational programs are preparing both sexes to survive in today's world (Lehmann, 1977).

Conflict; Law, Aspirations and Bias

Interpretation of the Education Amendments of 1972 was at issue when Geraldine Cannon, an experienced surgical nurse, who at age 39, was refused admission by all the medical schools in Illinois. The Supreme Court decided to review this case just five days after its ruling in 1978 on the Allan Bakke "reverse discrimination" case in which Bakke's private right to sue under part of the 1964 Civil Rights Act was an issue (438 U.S. 265). Cannon went directly to federal court with her sex discrimination complaint when she failed to receive help from the Department of Health, Education and Welfare which has the power to cut off federal assistance to a university when such a practice is demonstrated. On May 14, 1979, the Supreme Court ruled 6-3 that aggrieved individuals, as well as the government, can act to force compliance with the law forbidding sex discrimination at universities receiving federal aid. The court majority concluded that Congress, while not saying so

specifically, intended to give individuals a right to sue over alleged violations of the 1972 statute. This decision reversed the 7th U.S. Circuit Court of Appeals, which held that individuals do not have the right to sue; Geraldine G. Cannon v. University of Chicago et. al., 441 U.S. 677 (1979).

Roles in our system are defined by sex and these roles place women in a secondary position as inferior human beings (Pennsylvania Department of Education, 1972). Women have just not been considered important up to now and the failure to provide women with an education equal to that of men has stemmed from the presumption that women were intellectually inferior (Pennsylvania Commission for Women, 1978; Stock, 1978). In theory, all persons should be equal, but in practice, women are less "equal" than men (Korda, 1973).

There is considerable evidence to suggest that women feel they must choose, at an early age, between a career and a family, and, although women are now participating in a larger number of occupations than ever before, these opportunities sometimes produce severe conflict (Pottker and Fishel, 1977). The female's perception of the male attitude toward career women is also a great influence on such a choice. If a woman expects conflict with men, she tends to forego a career (Sexton, 1976). Hechinger (1981) states "The truth is we are stuck in an outdated work pattern. The idea that men worked in the real world while women stayed at home and 'only' raised children may have been suited to the days when children were an economic asset instead of an economic burden. In 1981 women work not because of the women's movement or merely for 'fulfillment'; they work because they need the money" (Hechinger, 1981, p. 19).

In a study conducted by Farmer and Bohn in 1971 which involved 50 working women (25 married and 25 single), the Strong Vocational Interest Blank for Women was administered two times. During the first administration of the interest inventory, the women were given no special instructions. The second time the inventory was administered to this group however, they were told to "pretend" that men and women are promoted equally in business and the professions, that raising a family well is possible for a career woman, and that men like intelligent women. Their level of career aspiration was raised considerably on the second administration (Diamond, 1975).

Mitchell (1977) conducted a study involving female students from grades 9 through 12 from 35 different high schools in Indiana. From these 1,108 participants is was found that while the girls believed the occupational opportunities are broadening for females, in practice however, they are still limiting their own choices to those more stereotypic to their sex. The majority of these girls revealed that they did not know a great deal about the vocational courses and programs available to them, nor were they cognizant about the legislation designed to help to eradicate sex bias and sex discrimination. The participants indicated overwhelmingly that they thought that the school counselor was the most important source of information about women.

Counselors seem to rate females with atypical career goals as more in need of counseling and tend to channel each sex into restrictive roles by accepting the prevailing ideas of maleness and femaleness (Lehmann, 1977; Pennsylvania Department of Education, 1972; Pottker and Fishel, 1977; Price and Borgers, 1977). Some counselors may limit the opportunities of female students by excluding them from career orientation and awareness

programs which emphasize traditionally male program areas (Pennsylvania Commission for Women, 1978).

Since counselors concentrate on the development of the individual, it seems that they are in a position to respond to the needs of both males and females. In an effort to determine if any change had taken place in counselors' views of sex-role stereotypes, Petro and Putnam (1979) conducted a study in which counselors were asked to respond to a questionnaire which had been used seven years prior in a study with a similar population. They found that the majority (3/4) of the behaviorial characteristics which were viewed as stereotypic by the original sample were not seen by male or female counselors as differentiating men and women. Male counselors however, did perceive females to be less interested in mathematics and sciences, less skilled in business, less adventurous and less self-confident. Male counselors agreed more frequently with the original sample and maintained that women are more submissive, illogical, sneaky, uncomfortable with their own aggression and dependent than men.

Jacqueline Cullen, Equity Coordinator for the Pennsylvania Department of Education, Bureau of Vocational Education, has released a directory of nontraditional workers in the Commonwealth. Counselors across the state will be able to consult the directory to locate those workers in their community who have volunteered to talk to individual students about the kinds of rewards, as well as the problems, nontraditional workers encounter. It is hoped that this one-to-one approach will contribute to the support system needed by the nontraditional vocational student (Pennsylvania Department of Education, 1981).

According to Brooking, (1978) there are more good opportunities for men in nontraditional fields than there are men prepared to accept employ-

ment. Actually, various statistical studies indicate that the percentage of men who have prepared for occupations in which women usually dominate is greater than the percentage of women who have entered predominately male occupations (Brooking, 1978). However, some of these men are still experiencing difficulty in acceptance by employers. A male private duty nurse brought action against a hospital under the Civil Rights Act of 1964 alleging that the hospital discriminated against him on the basis of his sex in that it refused to refer him to patients requesting a private nurse whenever the patient was female (340 F. Supp, 686, 1972). The hospital appealed (488 F 2d 1338, 1973) and the court reversed the original summary judgment for the nurse and remanded the case. In 1971, Cello Diaz, Jr., brought a class action suit against Pan American World Airways charging that his civil rights were violated because of this sex (422 F2d, 385). The circuit judge ruled that being female was not a bona fide occupational qualification for the job of flight attendant and the employer's refusal to hire the plantiff solely because of sex constituted a violation of the 1964 Civil Rights Act.

Each State Board for Vocational Education is now required, under Public Law 94-482, to submit annual, as well as five-year plans, which must contain detailed policies and procedures to assure equal access to programs by men and women, overcome sex stereotyping and discrimination, and to encourage the enrollment of women and men in nontraditional courses. Pennsylvania's five-year plan for 1977 to 1982, Goal VI "foster a concerted effort to achieve equal educational opportunities by eliminating sex, racial/ethnic and linguistic bias, stereotyping and discrimination" contains six subgoals which are:

(1) Foster the development of recruitment plans and nondiscriminatory admission criteria that encourage the enrollment of both sexes, members of minority groups, and those of limited English-speaking ability into nontraditional vocational programs.

(2) Encourage the exploration of nontraditional career options for all students seeking an occupational choice.

(3) Promote the development of occupational programs designed to attract all individuals from both sexes and from various race, ethnic and cultural backgrounds.

(4) Encourage the development of plans and procedures that will result in staffing patterns and staff training programs that are supportive of this goal.

(5) Intensify community involvement in supporting vocational training opportunities and job options for students of all races, ethnic backgrounds, both sexes, and those of limited English-speaking ability.

(6) Foster the development of specific administrative plans and procedures to assure leadership, supportive staff and evaluation of progress in eliminating bias, stereotyping, and discrimination on the basis of sex, race, ethnic and linguistic differences.

Although women excell in four out of seven aptitudes related to job requirements as measured by the General Aptitude Test Battery, women are graduating without realizing that nine out of ten of them will have a working life of approximately 25 to 30 years and are only being prepared for half of their lives (Lehmann, 1977; Pennsylvania Advisory Council, 1978; Pottker and Fishell, 1977; Sexton, 1976).

Stereotyping and the Work Force

Teachers expect boys to be logical, strong and assertive while they lead girls to think of themselves as emotional, weak and cautious, thereby limiting the career choices of both sexes (Martin, 1978). But women work for the same reason men do; most importantly, to provide for the welfare of themselves, their families, or others (Bomboy, 1979; Hechinger, 1981; U.S. Department of Labor, 1977). Surveys indicate that young women generally underestimate how much their future livelihoods will depend upon jobs of their own. Yet, one of seven families is headed by a woman, often living below the poverty level. As many as three million employed women

are described as "displaced homemakers", persons who found themselves unprepared to earn a living after a divorce or the death of their husband (U.S. News & World Report, 1979).

Women who worked at year-round full-time jobs in 1974 earned only 57¢ for every dollar earned by men. Men's median weekly earnings exceeded women's by about $97 and women had to work nearly nine days to gross the same earnings men grossed in five days (U.S. Department of Labor, 1977). In 1977, among full-time workers, median earnings for women totaled just 58.9% of the earned by men (U.S. News and World Report, 1979).

In 1979, women comprised 41% of the total work force but represented only 6% of the craft workers and only one fifth of one percent of the nation's electricians and heavy-equipment operators (Appendix A). In 1981, a woman employed full-time earned, on the average, 59¢ for every dollar earned by her male counterpart. Only one eighth of full-time working women earned $25,000 and over compared with 12% of men. Only one out of ten female workers earned as much as males did in similar jobs (Kandel, 1981).

The concept of the woman as a marginal worker persists, not only because of the kind of work she does, but also because she is often the family's second worker, whose earnings are not considered essential to the family's welfare (Kreps, 1971). The largest employer of women, the federal government, practices stereotyping. Although 76% of the lowest paying federal jobs are held by women, only 3.2% of those paying more than $42,000 per year belong to women (U.S. News & World Report, 1979). Most women, however, work because of economic need. According to the Women's Bureau, Office of the Secretary of Labor, 43% of the working women are not married or are widowed, divorced or separated and only 20% of all working women have husbands who earn $15,000 or more per year (Appendix B).

In 1981, The National Research Council completed a three year study which confirmed that job segregation by sex is common in today's labor market and, that the more an occupation is dominated by women, the less it pays (The Reading Eagle, 1981).

From the very beginning of their lives, women tend to be pushed into jobs where they are relied on to do what is necessary without complaining. According to Korda, (1973), from a man's point of view, a woman who works is always, in some mysterious way, less "womanly" than one who doesn't work. Although almost half of the nations' women are employed, the typical American woman is not perceived to be a wage earner. By 1990, the Department of Labor estimates that there could be as many as 54.3 million more women working than today (Accent, 1979). Women who are considering entering a nontraditional occupation may be discouraged from trying to enter a male's field because they perceive employers' reluctance to hire them for these jobs (Kreps, 1971), but the data generated from a study by Lunnenborg and Gerry (1977) reveal that females believe that women are suited to perform a much wider range of jobs than the males thought they could perform.

In a study by Hall and Fredrickson (1979) 89 male factory workers were shown pictures of people performing various tasks. They were asked to describe whether the figures performing the tasks in the pictures were male or female. The data indicate that college men stereotyped less than those without college education but, contrary to the hypotheses, older men did not stereotype more than the younger men. Newman (1981) indicates that research on teacher age and experience has shown that older teachers are not necessarily more stale or hardened, or even more altruistic, than younger teachers. Yet, many educators feel that the perspective of a

fifty-five year old teacher is different from that of a twenty-five year old teacher.

Neely and Wilson (1978) conducted a study which was designed to develop procedures for assisting women who aspired to vocational administrative posts but who did not have the required work experience outside of education. Questionnaires were sent to a random sample of vocational education personnel. The data indicate that there were very few women vocational administrators and most of these were at an entry-level position. There was a group of female vocational teachers however, who had been given administrative responsibilities and functions by their administrators, but not the accompanying title or position.

Perception: Expectations and Acceptance

Prediger and Cole (1975) identified two hypotheses in their investigation into the perceived relationships between interests and occupational satisfaction.

Socialization dominance hypothesis:

> Until the socially accepted activity and choice options of males and females become broadened during the developmental years, the occupations in which males and females will be satisfied will be restricted to those consistent with their early sex role socialization.

Opportunity dominance hypothesis:

> When socially accepted activity and choice options broaden and nontraditional career opportunities increase, people will find satisfaction in a wider range of occupations in spite of the limitations imposed by their earlier socialization.

"The socialization dominance hypothesis does not question that status quo. It accepts current occupational preferences and employment distributions of women and men as given. The opportunity dominance hypothesis reflects the changing nature of contemporary society. It presumes that,

as new opportunities emerge, preference will also change and current employment patterns will be modified" (Stebbins and Ames, 1978, p. 13).

Parents and teachers provide children with information which they in turn incorporate into their self-assignment and value systems (Guttentag and Bray, 1976). Stereotypes evolve from a structured set of inferential relations that a person attributes to the social categories of female and male (Ashmore and Del Boca, 1979). One of the most powerful belief systems in existence is that which is called the "sex-role system". Chetwynd and Hartnett (1978) describe this system as one which contains three components together with the interactions between them. These components comprise: the assignment, on the basis of sex, of one or two different series of personality traits; the division of labor on the basis of sex; and the investing of the male with a higher value than the female.

Because socialization is so effective in discouraging people from choosing and preparing for nontraditional careers, vocational teachers must give careful thought to how they can help to reduce its impact (Brooking, 1978). The primary goal of education is to assist the change process and those who are involved in education must consider that part of the role of a teacher is to serve as a change agent (McCune and Matthews, 1978).

The belief systems of individuals permeate the formal and informal, the overt and the covert aspects of educational institutions and reciprocally, the climate and structure of the educational institution influence the beliefs and behavior of the individuals (Chetwynd and Hartnett, 1978).

Girls and boys learn about themselves from their mothers and fathers. If a male parent values a female child enough to spend time and energy

seeing to her daily needs, then the child will value herself. At an early age, children figure out that men are often considered more valuable than women (Carmichael, 1977). Females generally have more negative views of themselves than males and much of this comes from exposure to the concept that they are inferior in some manner (Guttentag and Bray, 1976). Men and women communicate through screens of fear, ignorance, habit, social assumptions and repressions. It is particularly hard for men to discuss resonably anything involving women's self-interests without seeming obstinate or ill-tempered (Korda, 1973). Examine the words used in our literature which describe men and women differently in similar situations (Guttentag and Bray, 1976, p. 122):

SITUATION	MALE DESCRIPTOR	FEMALE DESCRIPTOR
forceful	charismatic	domineering
angry	outraged	hysterical
obstinate	strong-willed	stubborn
interested	curious	nosey
efficient	competent	compulsive
careful	prudent	obsessive
dauntless	fearless	brazen
ordinary appearance	pleasant-looking	homely
speaking a lot	talkative	gabby
forgetful	absentminded	scatterbrain
ironic	humorous	bitter
devious	shrewd	scheming
lighthearted	easygoing	frivolous
thoughtful	considerate	oversensitive
industrious	hardworker	drudge

The National Education Association adopted a resolution in 1978 (78-55) "Sexism in Education" which states:

> "The National Education Association believes that educational materials and processes should accurately portray the contributions of women both in the past and the present and that women must be involved in the selection of these materials and in preparing teachers for their use".

The Association recognized that many instructional materials portray women and men in sex-stereotyped roles and it urged educators to use only

those instructional materials that portray various careers and personal roles as acceptable and attainable for all individuals. It endorsed the use of non-sexist language by all schools and believes that sexism and sex discrimination must be eliminated from the curriculum (Martin, 1978).

Trenholm and deMancillas (1978) conducted a study which attempted to describe the kinds of behaviors people interpret as sexist. Eighty-nine first and second year college students from introductory human communications courses at a large northeastern university were asked to identify incidents during which they felt that they had been targets of sexist actions or remarks. The data indicate that women are more often the targets of sexual objectification while the men are more likely to be cited as targets of inflexible role prescriptions. Although discrimination against women is much clearer, respondents recognized that both females and males are the victims of sexual prejudices and that the manifestation of these prejudices are different for men and women. "Words, phrases and behaviors interpreted by the receiver as 'sexist' constitute one important set of relational cues. Thus, the use of a word or phrase defined by the recipient as sexist can trigger a negative orientational shift and result in problems of communication. The problem often arises because the sender and receiver have different criteria for terms or behaviors that carry sexist connotations" (Trenholm and deMancillas, 1978, p. 267).

Although teachers are aware that for educators, sexism is taboo, nonetheless, they perceive boys and girls to be radically different, believe that they want to be treated differently and see the teacher's role as one of meeting, rather than shaping, these needs (Guttentag and Bray, 1976). Since teachers do not have the same expectations for female students that they have for male students, they have unconsciously restricted opportunities for all their students (Pottker and Fishel, 1977).

In a study by Levitan and Chananie (1972) results indicate that both direct and indirect expectations and approval are communicated to the dependent girl. She is liked, whereas the dependent boy is not liked. Yet it is independence, not dependence, which later correlates with creative intellectual ability.

During 1972, a structured curriculum that dealt with sex-role stereotyping was introduced into the ongoing program at the Hofstra Child Development Center with children in the nursery and kindergarden classes. They put a hard hat on a young girl and told her she was a builder of cities. She went right ahead and built tall buildings from blocks, contrary to the theory that she should have been building "womb-like" structures. At the beginning of this program the teachers denied that they held attitudes of sex stereotyping, but at the end of the program they were defending their existence (Guttentag and Bray, 1976).

Teachers do not expect girls to excel in math. Subliminally, girls are told to remove themselves from mathematical territory (Carmichael, 1977). Avoidance of mathematics has been hypothesized as being related to career choice restrictions. Benton (1979) submitted questionnaires to 129 undergraduate students and found that the females did not stereotype mathematics as masculine as much as the men did. Females, however, tended to underestimate their abilities and they had a higher percentage of rejecting "fantasy" careers which had mathematic components but otherwise were seen as desirable. Differences among members of the same sex are far greater than average differences between sexes. The variation between the sexes is only about 20 to 40 percent and the average male-female differential in mathematic scores is only half a standard deviation, which is rather small (Gelman et. al., 1981).

The Pennsylvania Department of Education queried 5th, 8th, and 11th graders in 732 school buildings which represented approximately 90,000 students. Approximately 3,500 randomly selected answer sheets were examined to see how the boys and girls stacked up against each other in about 14 areas such as their self-esteem, ability to understand others, reading, writing and mathematical skills, interest in school and learning, societal responsibility, knowledge of law and government, health, creative activities, career awareness, appreciation and knowledge of human accomplishments, and information usage. They found that girls scored better than boys in nearly every area, and that the older the students were, the wider the gap became. When they compared all 14 areas for the three grade levels, girls scored significantly higher in 13. There were no significant differences at any grade for creative activities (which measures quantity, not quality) or mathematics which is notable because of the commonly held opinion that boys do better than girls in mathematics. The greatest differences between the two sexes was found in understanding others and societal responsibility (two "people" oriented categories) and writing. Girls also scored higher on reading, health habits, appreciation of human accomplishments and information usage (Pennsylvania Department of Education, 1979).

The Teacher: Influence on Stereotyping

Howe (1971) reports that during an investigation into the development of sex-role stereotyping of children and the role which teachers play in such development, a discussion was being held in a sixth grade class about a story involving a chef, when a student questioned that this was "sissy" work for a boy. The teacher replied that men make the best cooks, just as they make the best everything. The teacher told the students that

anything a woman can do, a man can do better. There were no male students present; the teacher was a woman.

Messages about "correct" behavior for the sexes are being communicated via teachers' interactions and prohibitions and the pupils' observations of female and male teachers and the staff hierarchy (Chetwynd and Hartnett, 1978; Crow and Taebel, 1976). Schools function to reinforce the sexual stereotypes that children have been taught by their parents, friends and the culture in which they live (Levitan and Chananie, 1972). In a study conducted by Wilson (1971) which was designed to identify the factors related to student ratings of teachers, of all the variables analyzed, teacher perception of the class was the factor most strongly related to the ratings which students gave to teachers. The most powerful predictors of attitudinal change in students are enthusiasm and the convictions of the individual teacher (Guttentag and Bray, 1976; Steiger and Schlesinger, 1979).

Longstrom (1973) collected data from 366 junior high school students to attempt to determine some of the factors which influenced them to enroll in vocational education programs. Teachers were consistently seen as the most influential regarding the occupational choices made by the students. However, in 1977, data collected by the Indiana State Board of Vocational Education indicate that students who had chosen traditional careers identified that teachers had influenced their decisions while those students who chose nontraditional careers did not feel that they were influenced by a teacher.

In a landmark study by David Ryan (1960) which was a six-year study dealing with the personal and social characteristics of teachers, more

TODAY, CLASS, WE'RE GOING TO TALK ABOUT SOMETHING IMPORTANT: HUMAN RIGHTS.
I BELIEVE THAT BOYS AND GIRLS ARE ABSOLUTELY EQUAL. I MEAN IT.
THE TRUTH IS CYNTHIA, STOP SCRATCHING AS NOT LADYLIKE.
THE TRUTH IS, ANYONE CAN DO ANYTHING NOWADAYS - REGARDLESS OF THEIR SEX.
- HONESTLY, BILLY I'VE TOLD YOU A THOUSAND TIMES.. BOYS DON'T FIDDLE WITH THEIR HAIR!
- YOU WILL FIND THAT THERE IS NO SEX BIAS IN MY CLASS. EVER.
AH. THERE'S THE BELL. ALRIGHT CLASS DISMISSED!
- GOOD HEAVENS, ANNIE! DON'T LIFT THAT STOOL - LET GEORGE DO IT!!
.. OH, IT FEELS SO GOOD TO HAVE THE CHANCE TO LIBERATE YOUNG PEOPLE!

Cartoon used with permission of Resource Center on Sex Roles in Education.

favorable attitudes toward pupils were expressed by women teachers in secondary schools, but among elementary teachers there was a tendency for men to possess more favorable attitudes than did women (Balzer, et. al., 1973). In a 1973 study conducted by Torrance on creativity, teachers recognized the creative behavior of the boys more often while they communicated conformity expectations to the girls. The children did much better at creative tasks which were sex-typed. This suggests that girls may be choosing their level of creativity based on the sex-role appropriateness of the task (Guttentag and Bray, 1976).

Panko (1979) administered a questionnaire to two groups of college students; one group consisted of students who were education majors and the other group were majors in other subjects. The responses to the questions concerning women's rights indicate that there was little significant difference between the attitudes of future teachers towards women and those of other students. The difference however, was between the male and female education majors with the females displaying significantly less traditional attitudes than the males.

The aim of the educator is to produce an adult who will play a certain desired role in society (Stock, 1978). Dr. John Struck, former Director of the Bureau of Vocational Education for the Commonwealth of Pennsylvania, indicated, at a seminar on removing sex barriers in vocational education, that the biggest problem of getting females into nontraditional areas was faculty attitude (Pennsylvania Advisory Council, 1978). While the obvious sources of sex-stereotyping in the schools are the textbooks and instructional materials, the attitudes and actions of the teachers play a vital part in the students' development and self-image (Pennsylvania Department of Education, 1972). Vocational teachers, especially the males,

have the ability to influence women, so therefore, it is vital that they recognize how important their role is in the decision-making process for students (Pennsylvania Advisory Council, 1978). Many times a male vocational education teacher is credited with being the key person in a woman's decision to pursue a nontraditional career (Kane, Frazee and Dee, 1976).

Weitz (1977) in her study, documented instances of sex-role stereotyping in college procedures and materials which can affect students' career and educational options. The data indicate that male faculty respondents held more traditional attitudes than those of the female faculty, but female faculty were more resistant to women considering "male" careers than they were to men considering "female" careers. Males however, were virtually resistant to either idea. The findings of the students were notably similar. One of the most remarkable findings in this study was that male instructors in gender-neutral programs expressed the most traditional attitudes of all the groups surveyed towards statements like "women have less need to achieve..." and "men make better bosses than women" (Weitz, 1977 p. 56).

Rokeach (1960) developed a dogmatism scale designed to measure individual differences in open-mindedness or closed-mindedness of belief systems. "In order to form a new belief system, the ability to remember, or keep in mind all the new parts to be integrated into the new system, as well as the willingness to entertain new systems, must be present in the individual" (Rokeach, 1960, p. 398). Schrag (1978) challenges teachers to measure their level of receptivity to students who express opinions which are contrary to theirs by participating in a self-evaluation by responding to a short-form dogmatism scale based on Rokeach's work, and then to analyze the results. The willingness however, to participate in such a self-evaluation, might, in itself, indicate a low dogmatism level.

In Luzerene County, Pennsylvania, correlations between authoritarianism and sexism was the basis of a study which used the "Attitude Toward Women Scale: Short Form" to measure sexist attitudes and the short form of the Rokeach Dogmatism Scale to measure authoritarianism. The hypothesis of this study was that teachers who are authoritarian would exhibit a significantly higher degree of sexism than teachers who are less authoritarian. Teachers on the higher-scoring third of the Dogmatism Scale were considered authoritarian; the lower third were considered nonauthoritarian. A test on the sexism scores of the two groups indicate that the authoritarian teachers were significantly more sexist than the nonauthoritarian teachers (Rees and Grogan, 1978).

Summary

The elimination of sex-role stereotyping is first and foremost a call to improve the lives of women (Martin, 1978), but intervention on both males and females could allow both girls and boys to develop their potential for participation in all roles of life (Guttentag and Bray, 1976; Martin, 1978). Maslow (1954) indicates that in order to prevent contaminating our perception of society and of ourselves by human values, we must be very conscious of these values at all times, to understand their influence on our perception, and use that understanding to make the necessary changes.

Investigations into sex-role stereotyping indicate that the most important factor that determines the effectiveness of developing non-sexist attitudes is the classroom teacher (Guttentag and Bray, 1976; Howe, 1971; Kane, Frazee and Dee, 1976; Longstrom, 1973; Pennsylvania Advisory Council, 1978; Pennsylvania Department of Education, 1972). But, research suggests that it is difficult to find teachers who are themselves "non-sexist" since

most teachers do treat different sex children unequally and have different expectations and perceptions of boys and girls (Carmichael, 1977; Guttentag and Bray, 1976; Longstrom, 1973; Ryan, 1960).

Research findings indicate that sex bias behaviors are being demonstrated. What is needed now however, is to determine whether these findings can be linked with other factors in order to ascertain if patterns relating to sex bias behaviors and personal characteristics can be identified.

Empirical and theoretical literature indicate that a number of personal/situational characteristics may account for some of the differences in the way teachers react to potential employment success for nontraditional students. This study examines these characteristics:

(1) Sex Bias

Findings indicate that sex bias behaviors are being demonstrated towards students seeking to enter nontraditional occupational areas (Chetwynd and Harnett, 1978; Lewis and Kaltweider, 1976; Pennsylvania Advisory Council, 1978; Weitz, 1977).

(2) Open-closed Mindedness (dogmatism)

Rees and Grogan (1978) found that the more dogmatic teachers also tend to demonstrate more sex bias behaviors.

(3) Vocational or Nonvocational Teachers

Vocational teachers are seen as more sex stereotypical in their behaviors than nonvocational teachers (Lewis and Kaltweider, 1976; Pennsylvania Advisory Council, 1978; Schneck, 1977).

(4) Urban or Suburban/Rural School Setting

Children reflect the influence of the institutions to which they have been exposed. Research by Chetwynd and Harnett (1978) and Schau and Bausch (1979) found that inner-city children hold more stereotypical views than other children.

The review of the literature revealed a number of personal characteristics which previous studies found did not account for differences in reactions to nontraditional students. This study, however, examines these characteristics in order to verify previous findings:

(1) Sex

Females are seen as demonstrating fewer sex bias behaviors than males (Panko, 1979; Pennsylvania Advisory Council, 1978). However, sex may be a contributing factor to the overall reactions for career success for the nontraditional student.

(2) Age

Hall and Fredrickson (1979) and Newman (1981) found that older people, contrary to the popular held belief, do not demonstrate more sex bias behaviors than younger people do.

(3) Marital Status

Farmer and Bohn (1971) found that the career aspirations of married women are not significantly different than those of single women. Also, they found that when women are forced to provide for themselves and their families, they are unprepared to enter occupations which will pay considerably more than those typically occupied by female workers (Hechinger, 1981; U.S. News and World Report, 1979).

(4) Education

Findings by Trenholm and deMancillas (1978) and Weitz (1977) indicate that college faculty demonstrate strong sex-role stereotyping behaviors. While research by degree level could not be located, this study examines the prediction behavior of teachers in relationship to the level of the degree they hold.

(5) Teaching Experience

Newman (1981) and Hall and Fredrickson (1979) found that teachers with more experience did not display more traditional attitudes than teachers with fewer years experience. However, these studies did not include vocational teachers. Therefore, this study examines the prediction behavior in relationship to the number of years of teaching experience of both vocational and nonvocational teachers.

(6) Sex, Number and Educational Status of the Teachers' Children

Appropriate masculine and feminine behaviors are fixed in the minds of parents regardless if they have children of one or both sexes (Diamond, 1975; Duncan and Duncan, 1978) and sex stereotypical patterns are passed on to children regardless of the size of the family (Diamond, 1975; Schau and Bausch 1979). Although no significant research could be found which examined the relationship between the sex bias behaviors of teachers and the educational status of their own children, this study

analyzes whether these factors influence the perceptions of the teachers regarding the nontraditional student.

(7) Mother's Occupation While Teacher Was in High School

Lazowick (1955) found that both males and females identify more closely with the mother than with the father. Findings, however, indicate that children do not incorporate the importance of the occupation of their mother into their value systems (Burlin, 1979; Guttentag and and Bray, 1976; Schau and Bausch, 1979).

The law stipulates that educators must cease practicing sex bias and sex stereotyping. The question remains however, have teachers been able to encompass into their belief systems, attitudes which reflect that they can perceive success for students of both sexes who choose to participate in nontraditional occupational careers?

CHAPTER III

METHODS

This study was conducted in the Commonwealth of Pennsylvania and the population consists of nonvocational teachers who are employed in the 18 sending schools within Berks County and the City of Reading and vocational-technical teachers from Reading-Muhlenberg Vocational School and the Berks Vocational-Technical School (Appendix I). Their classroom population consists of students who reside in urban, suburban and rural settings and who are members of the tenth, eleventh, and twelfth grades.

Sample Selections

The process implemented in Berks County and the City of Reading to select students for participation in the vocational technical schools programs dictated the selection of the teachers, both vocational and non-vocational, who were part of this study.

The Subjects (Ss) consist of a stratified random selection of 120 non-vocational and 64 vocational-technical teachers. The stratification was accomplished by the following determinations:

Nonvocational Teachers. The 18 school districts within Berks County are each allowed to send 'x' number of students to the vocational-technical schools depending upon their total student enrollment. Therefore, the larger the student population of the school, the more students that school may send to the vocational-technical programs.

The number of students from each school district who are permitted permitted to attend the county vocational-technical school is based on a

formula which uses the ADM (Average Daily Membership) of each school along with other variables such as whether the course is offered at more than one center. The percentages, as established by the Student Services Department, were used to establish the number of participants needed for this study (Tables 1 and 2).

This same formula was used to determine the number of non-vocational teachers who were participants in this study from each of the 18 sending schools. After this number was determined, a random selection was made from an alphabetical list from each school, by the application of a random numbers table. Since the larger schools send the greatest number of students to the vocational-technical schools, it is those schools which have the greatest influence over which students are being placed in the vocational-technical schools within Berks County. Therefore, it seems apparent that the teachers from the larger sending schools also have the opportunity to influence a greater number of students than those teachers from the smaller sending schools (Table 1).

Table 1

Total Number of Nonvocational Teachers Needed to Participate in This Study.

School District	80-81 Potential number of students for Vo-Tech	Percentage of total potential	Number of teachers needed for stratification
Antietam	75	3.5	3
Boyertown	310	14.7	14
Brandywine	77	3.7	4
Conrad Weiser	113	5.4	5
Daniel Boone	94	4.5	5
Exeter	139	6.6	6
Fleetwood	77	3.7	4
Governor Mifflin	247	12.0	12
Hamburg	111	5.3	5
Kutztown	94	4.5	5
Oley	94	4.5	5
Schuylkill Valley	94	4.5	5
Tulpehocken	94	4.5	5
Twin Valley	124	6.0	6
Wilson	240	11.5	11
Wyomissing	108	5.1	5
Total needed from county schools			100
Muhlenberg	220	20.0	4
Reading	880	80.0	16
Total needed from city schools			20

Note: The 16 schools listed on the top part of this chart feed into the Berks Vocational-Technical School. The two schools listed at the bottom of this chart feed into Reading-Muhlenberg Vocational School on an approximate 20/80 percent ratio.

During the data collection period of this study, the teachers from Muhlenberg were on strike. Since Reading is their 'sister' school, 4 additional responses were obtained from that school so that the total responses from the city area would be maintained at 20.

Vocational-technical Teachers. There are approximately 83 vocational-technical teachers employed by the Berks Vocational-Technical School and 45

at the Reading-Muhlenberg Vocational School. An alphabetic list was made from each school and a random selection of 64 teachers, or 1/2 of the total faculties, was accomplished by the application of a random numbers table (Table 2).

Table 2

Total Number of Vocational-technical Teachers Needed to Participate in This Study

Vo-Tech Center	Enrollment potential	Percent of potential	Number of teachers for stratification
Berks, East	1200	35.0	22
Berks, West	1200	35.0	22
Reading-Muhl.	1100	30.0	20
Total needed from vocational schools			64

Refusal of Participation. It was planned that if any of the randomly selected teachers from either the nonvocational or the vocational-technical groups did not wish to participate in this research study, that the next number on the random numbers table would be used. However, this was not necessary since all teachers selected were willing to complete all research instruments.

Tasks

The first task the Ss were requested to perform was to repond to the "Participant Data Information Sheet" (Appendix C). Section I of this sheet was designed to collect the personal data needed on each participant. Section II required responses regarding the number, sex and educational status of the participants' children; and Section III was a 20 question scale to measure the level of sex bias and dogmatism of each participant.

The Ss were then requested to read the "Results of Application of the Hall Occupational Orientation Inventory" (Appendix D). These sheets contained the interpretative data necessary to explain the stanine scores received by the eight hypothetical students who took the inventory and the occupational course area the student selected to pursue in the vocational-technical school.

After consultation with several certified guidance counselors, the Hall Occupational Orientation Inventory (HOOI) was selected for use in this study because of its simplicity. The HOOI can be easily read and understood by teachers who may not be too familiar with inventories designed to measure job satisfaction. The use of the HOOI, however, does not represent acceptance of the predicting validity of the instrument itself.

The final task required the Ss to respond to the "Student Rating Sheet" (Appendix F) which contained 10 questions designed to elicit forced choice responses to indicate which student, out of two or more, and based only on the information provided, that the participant perceived would be more successful in his/her chosen field. These responses were examined under two different economic conditions; (A) full employment and a labor shortage and, (B) high unemployment and a labor surplus. This was done in order to ascertain whether the teachers would display different perceptions under different economic conditions by changing their selections.

Selection Results

When the participants had to choose between a male and a female student, each selecting the same occupation, one considered to be traditional selection and the other a nontraditional, the results were as follows:

(a) Both students in Question 3 (Appendix F) had Hall Occupational Orientation Inventory (HOOI) data indicating job satisfaction in the field of Cosmetology. Under economic conditions A, 53% chose the female (traditional selection) while under economic conditions B this dropped to 47%. These figures were completely reversed under economic conditions B; 53% of the participants chose the male (nontraditional selection) and 47% chose the female. This indicates that a larger percentage of the participants perceived success for the male student in Cosmetology under conditions of high unemployment and a labor surplus than they did for the female even though both students had HOOI results indicating job satisfaction and Cosmetology was a nontraditional program selection for the male (Table 3).

Table 3

Frequency of Teacher Selection of Students on the Student Rating Sheet Under Economic Conditions A and B

Question Number	Sex of Student	HOOI Job Satisfaction	Occupation Area	Type of Area for Student	Relative Frequency Economic Conditions A	B
1	F	Yes	Auto Mech.	Nontrad.	82.0	71.0
	M	No	Auto Mech.	Trad.	18.0	29.0
2	F	No	Masonry	Nontrad.	15.0	23.0
	M	Yes	Masonry	Trad.	85.0	77.0
3	F	Yes	Cosmetology	Trad.	53.0	47.0
	M	Yes	Cosmetology	Nontrad.	47.0	53.0
4	F	No	Health Asst.	Trad.	77.0	70.0
	M	No	Health Asst.	Nontrad.	23.0	30.0
5	F	Yes	Auto Mech.	Nontrad.	27.0	28.0
	F	No	Masonry	Nontrad.	5.0	7.0
	F	Yes	Cosmetology	Trad.	62.0	54.0
	F	No	Health Asst.	Trad.	6.0	11.0
6	M	No	Auto Mech.	Trad.	8.0	9.0
	M	Yes	Masonry	Trad.	39.0	37.0
	M	Yes	Cosmetology	Nontrad.	48.0	45.0
	M	No	Health Asst.	Nontrad.	5.0	9.0
7	F	No	Masonry	Nontrad.	35.0	39.0
	F	No	Health Asst.	Trad.	65.0	61.0
8	M	No	Auto Mech.	Trad.	70.0	60.0
	M	No	Health Asst.	Nontrad.	30.0	40.0
9	M	Yes	Masonry	Trad.	43.0	44.0
	M	Yes	Cosmetology	Nontrad.	57.0	56.0
10	F	Yes	Auto Mech.	Nontrad.	46.0	34.0
	F	Yes	Cosmetology	Trad.	54.0	66.0

(b) In questions 1 and 2 (Appendix F) the participants had to choose between a male and a female student with only one having job satisfaction indicators. Question 1 dealt with the field of Auto Mechanics with the HOOI giving the female (nontraditional selection) the more significant interpretive data. Under economic conditions A, 82% chose the female student but only 71% made the same choice under economic conditions B. This indicates that under poor economic conditions, more participants (11%) changed their selection from traditional to nontraditional in the case where the occupation (Auto Mechanics) involved was nontraditional for the female in spite of the fact that she had HOOI job satisfaction and the male did not. Question 2 involved the field of Masonry with the HOOI giving the male (traditional selection) the more significant interpretive job staisfaction data. Under economic conditions A, 85% of the participants chose the male but only 77% make the same choice under economic conditions B (Table 3).

(c) Question 4 required the participants to choose between a male and a female selecting the field of Health Assistant. Neither student had HOOI interpretive data to indicate job satisfaction. While it could be argued that a selection cannot be made between 2 students both of whom did not have job satisfaction indicators, it was felt that this situation could occur in an actual school setting when students choose to ignore inventory results. Therefore, this possibility gives credence to the inclusion of such a situation in this

study. Under economic conditions A, 77% chose the female (traditional selection) while under economic conditions B the percentage making the same choice fell to 70%. This indicates that under poor economic conditions more participants (7%) chose the male student despite the fact that both students did not have job satisfaction and the area of Health Assistant is considered nontraditional for the male (Table 3).

(d) The only occupational area to experience a decrease in the selection of the nontraditional student under poor economic conditions was the area of Auto Mechanics. In the occupational areas of Cosmetology, Masonry and Health Assistant, the number of participants who changed their selections to the nontraditional student when unemployment was high and a labor surplus existed increased (Table 3).

When the participants had to make selections from all female students findings indicate the following:

(e) In question 5, 4 females were presented; two making traditional selections and 2 making nontraditional selections. The female choosing Cosmetology (traditional selection) and the female choosing Auto Mechanics (nontraditional selection) both had HOOI job satisfaction indicators. While the female choosing Masonry (nontraditional selection) and the one choosing Health Assistant (traditional selection) did not. The most significant change occurred under economic conditions B when 12% fewer participants chose the Cosmetology student than they did under economic A conditions. Question

7 involved a female who chose Masonry (nontraditional selection) and one who chose Health Assistant (traditional selection) with neither of the students indicating HOOI job satisfaction. Under economic conditions A, 65% chose the Health Assistant student but only 61% made the same choice under conditions B. Question 10 involved a female who chose Auto Mechanics (nontraditional selection) and one who chose Cosmetology (traditional selection) with both students having HOOI indicators of job satisfaction. Under economic conditions A, 54% chose the Cosmetology student while this rose to 66% under economic conditions B (Table 3).

(f) In all questions involving female students only, the largest percentage of the participants chose the traditional occupational areas for the females under both economic conditions and in all cases, the percentages became larger under conditions of high unemployment and a labor surplus (Table 3).

When the participants had to make selections from all male students findings indicate the following:

(g) In question 6, 4 males were presented; two making traditional selections and two making nontraditional choices. The male choosing Masonry (traditional selection) and the male choosing Cosmetology (nontraditional selection) both had HOOI job satisfaction indicators. While the male choosing Auto Mechanics (traditional selection) and the male choosing Health Assistant (nontraditional selection) did not have job satisfaction indicators. The percentage of participants who changed their selection among these 4 male students from

economic conditions A to economic conditions B were all less than 4%. However, 48% chose the Cosmetology student under conditions A and 45% of the participants made the same choice under economic B conditions despite the fact that the occupational area is considered to be nontraditional for the male. This was not the case, however, when the same type of situation was presented to the participants in question 5 when they had to choose among 4 female students. In this situation, they overwhelmingly chose the traditional occupational area under both economic conditions. Question 8 required the participants to choose from two male students neither of whom had HOOI job satisfaction indicators. One chose Auto Mechanics (traditional selection) and the other chose Health Assistant (nontraditional selections). Under economic conditions A 70% chose the Auto Mechanic student but this percentage dropped to 60% under economic conditions B. Question 9 involved the selection of a male in Masonry (traditional selection) and one in Cosmetology (nontraditonal selection) who both had HOOI indicators of job satisfaction. The Cosmetology student was selected by 67% of the participants under economic conditions A and this only decreased 1% under economic conditions B. However, when the participants had to make the same type of selection between two female students (question 10) the larger percentage chose the female in the traditional occupation (Table 3).

The means for A and B scores were 30.554 and 29.071 respectively. While most participants did not change their selections when moving from economic conditions A to economic conditions B, the participants perceived success for the male nontraditional student more consistently than they did for the female nontraditional student.

Instrumentation

The case study approach, such as the one used by Levitan and Chananie in 1972 when they paired hypothetical boys and girls who showed characteristics of dependency, aggression or achievement, was implemented in this study. This approach was used in order to achieve the combinations as shown in Appendix E which were necessary in order to build a reliable data base for statistical and research purposes. It would have been difficult to find actual students who would not only choose the subject areas included in this study, but also attain the stanine scores needed to create the truth table identified in Appendix E. Using hypothetical students rather than actual students helped to prevent contaminated data by controlling such modifying variables as personality, race, physical appearance and past educational history.

Four career selections were made from the U.S.O.E. Nontraditional Vocational Careers, 1977: two which were considered nontraditional for girls and two which were considered nontraditional for boys in secondary situations. Cosmetology and Health Assistant were chosen as nontraditional for the boys and Auto Mechanics and Masonry were chosen as nontraditional for the girls. In each of the four areas chosen, both a boy and a girl indicated an interest in pursuing a career within that field; therefore,

within each course area, both a traditional and a nontraditional choice is being made. The students' occupational satisfaction as measured by the Hall Occupational Orientation Inventory (HOOI), however, did not indicate that all of these students would achieve job satisfaction in the areas they want to pursue. By examination of the chart in Appendix E, it can be determined that the HOOI predicted occupational satisfaction for one girl and one boy in a nontraditional area, and one girl and one boy in a traditional area. The other students, two who chose traditional course areas and two who chose nontraditional areas, would not achieve job satisfaction as measured by the HOOI. By arranging these combinations in such a manner, it was hoped that it would be possible to determine whether the teachers would predict the same type of success, based only on the information supplied, or whether they would be influenced by the level of their sex bias or open-closed mindedness as measured by the scale in Section III of the "Participant Data Information Sheet" (Appendix C).

The interpretative data needed to explain the results of each student's stanine scores as measured by the HOOI (Appendix D), were submitted to a group of secondary guidance counselors from the schools participating in this research study (Appendix I) to ascertain the validity of the descriptive data of the specific stanine scores for each student to assure that the desired combinations were supported by the appropriate inventory results (Appendix G and H). The results needed were as follows: in Auto Mechanics, the interpretive data indicate occupational satisfaction for the girl but not the boy; in Masonry the data indicate occupational satisfaction for the boy but not the girl; in Cosmetology, the interpretive data indicate occupational satisfaction for both the boy and the girl; and in Health Assistant, the interpretive data indicate that neither the girl nor the boy would achieve job satisfaction (Appendix D and E).

The "Participant Data Information Sheet" (Appendix C) consists of three sections. Section I contains the necessary demographic data required to determine if differences, as specified in the Research Question exist. These data include the sex, age and marital status of the teacher, whether the teacher is employed in a secondary high school or an area vocational-technical school and whether the school is in an urban, rural or suburban location, the degree or certification held by the teacher, the number of years of teaching experience that the teacher has, and the occupation of the teacher's parents while the teacher was a secondary student. Section II is designed to collect data on the teachers' children regarding the number and sex of these children as well as the educational status of those children. Section III is a scale to measure the level of sex bias and open-closed mindedness of the teachers. This scale consists of 16 questions, 8 taken from the work done by Marie Einhorn Werner in her dissertation completed at Columbia University in 1973, "A Scale for the Measurement of Sexist Attitudes," and 8 taken from the dogmatism scale designed by Milton Rokeach (1960), which measures the level of open-closed mindedness. The even numbered questions represent the sex bias questions while the odd numbered questions denote the ones designed to measure the level of dogmatism (Appendix C). By interspersing these questions, the participants in this research study were probably less aware of what was being measured than by having all of the sex bias questions grouped together and all of the dogmatism ones together. This same technique was used by Rokeach (1960) when he interspersed items designed to measure dogmatism with those to measure opinion in order to better disguise the purpose of his study.

Scoring Procedures

This study involved 4 measurements. Two of these, the levels of sex bias and dogmatism of the participants, were obtained by using the responses of the participants to the 16 questions found in Section III of "The Participant Data Information" sheet (Appendix C). Using a "+" for agree and a "-" for disagree, the participants indicated their own personal opinions regarding 8 items from Werner's (1973) scale to measure sexist attitudes and 8 items from Rokeach's (1960) scale to measure open-closed mindedness. The participants then indicated the level of that agreement or disagreement by using a 1 for "a little", a 2 for "on the whole", and a 3 for "very much". These responses were then converted to a 7 point scale by adding 4 points to each item. The 8 even-numbered items were then added to obtain each participant's level of sex bias and the 8 odd-numbered items were added in order to obtain their level of dogmatism. This procedure resulted in both a sex bias level and dogmatism level range of 8 to 56. A sex bias level of 56, therefore indicated a high level of bias while a sex bias level of 8 indicated no sex bias. A dogmatism level of 56 indicated closed-mindedness or a high level of dogmatism while a level of 8 indicated open-mindedness or a low level of dogmatism.

The final two measurements were obtained by using the responses of the participants to the Student Rating Sheet (Appendix F). This activity required the participants to select which student, in 10 different situations, they perceived would be more successful in various occupational careers. These choices had to be made under two different economic conditions; (A) full employment and a labor shortage and (B) high unemployment and a labor surplus. Therefore, 20 separate responses were required. These responses were then converted into a 0 to 6 point scale. When a

choice had to be made between two students when one had much higher Hall Occupational Inventory (HOOI) stanine scores, a point value of 6 was applied if the participant chose the student with the significantly higher scores and a value of 0 was applied if the student with the significantly lower scores was selected. This occurred in questions 1 and 2. In cases where the participants had to choose between two or more students, one or more making a traditional selection and one or more making a nontraditional selection, a point value of 4 was given if the outstanding nontraditional student was chosen and a 3 was given if the outstanding traditional student was chosen. If a student was selected who had significantly lower HOOI scores than any of the others, a 0 was applied. This occurred in questions 3, 5, 6, 9 and 10. In cases where neither of the students presented had HOOI scores which indicated success, a point value of 2 was applied if the participant chose the nontraditional while a value of 1 was given if the traditional student was chosen. This occurred in questions 4, 7 and 8. In cases where the participant chose the student whose score was significantly lower than other students presented, a point value of 0 was applied. This occurred in questions 1, 2, 5 and 6. The point value of 5 was not used in order to produce a more distinct spread between cases where the HOOI scores obviously indicated a much significantly higher chance of success for one student and other questions where the participants had to choose between student whose HOOI scores were much more equal. After each individual response was converted, the values applied in the A column (high employment and a labor shortage) were totaled. These scores are referred to in this study as the "A scores". The values in the B column (high unemployment and a labor surplus) were totaled. These scores are referred to in this study as the "B scores" (Appendix N).

The first two measures, sex bias and dogmatism, can be easily interpreted since scores range from low to high levels of bias or dogmatism. The A and B score measurements (traditional/nontraditional student selection), however, can be interpreted two ways. A high A or B score can indicate a high occurrence of the selection of nontraditional students or a low occurrence of the selection of traditional students, whereas, a low A or B score can indicate a high occurrence of selection of traditional students or a low occurrence of the selection of nontraditional students.

Pilot Testing

All instruments were pilot tested with two groups of people not involved in the actual research study. One group consisted of ten vocational and nonvocational teachers outside of Berks County, while the other group was made up of 12 business and professional people not employed in education. After reviewing the completed instruments from these two groups, minor changes in verbiage were made to eliminate any ambiguity in directions.

Data Collection

Contacts were established with all of the schools involved in this study in order to obtain permission for the instruments to be tested (Appendix J). After permission was granted (Appendix K) and a test administrator was appointed, a personal visit by the researcher was made to each school in order to clarify the procedures to be followed, instructions to be given to the participants, and deliver all the testing instruments. The purpose of having an individual from each school district test the instruments was to remove some degree of researcher bias. It was also anticipated that by testing the instruments in each teacher's own school, a nonthreatening environment was established for the participants.

Participants spent from 20 to 40 minutes in completing all instruments. The testing administrator then collected all of the responses and mailed them directly to the researcher.

Upon receipt of the instruments, the researcher reviewed them for completeness and acceptability for inclusion in the data base for the study. It was determined that all instruments were completed and proper instruction had been followed. The data were keypunched and then submitted to the computer center at Temple University with the proper program cards for statistical analysis.

Data Analysis Design

This is an ex-post facto study. Teachers were requested, when presented with information about students' apptitude for job satisfaction and their career preparation program choice, to make a selection of which student, from two or more, they perceived would be more successful in the world of work after career preparation. These selections were statistically analyzed to determine if any differences between these choices could be accounted for by the differences in the teachers' scaled scores on sex bias and open-closed mindedness and certain personal/situational characteristics of the teachers. The differencess were examined under two different economic conditions (A) full employment and a labor shortage and, (B) high unemployment and a labor surplus.

The data were first analyzed by the use of FREQUENCIES which is a computer program available in the Statistical Package for the Social Sciences (SPSS). This allowed the data to be analyzed to determine the basic distributional characteristics of each of the variables to be used in further statistical analyses. The differences were then examined by the use of two sub-programs in SPSS; CROSSTABS, which produced cross tabulations of the data and ANOVA, which produced an analysis of variance.

CHAPTER IV

FINDINGS

The final instrument, Student Rating Sheet (Appendix F), required the participants to respond to 10 questions to indicate which student, out of two or more, and based only on the information provided, they perceived would be more successful in his/her chosen occupational field under 2 different economic conditions (Table 3). Condition A represents full employment and a labor shortage and will be referred to in this study as "A scores". Condition B represents high unemployment and a labor surplus and will be referred to as "B scores". In order to perform statistical analyses, the A and B scores were converted into scaled scores. The method utilized to accomplish this can be found in Appendix N.

Analyses were made to determine if differences in the A and B scores could be accounted for by the differences in the variables associated with the research question in Chapter I. Therefore the research question was converted into a null hypotheses as follows:

H_0 The differences in the reactions of teachers to students' potential for employment under good or bad economic conditions does not differ significantly as a function of:

(a) age

(b) sex

(c) number and sex of children

(d) marital status

(e) educational level

(f) years of teaching experience

(g) mother's occupation

(h) whether a vocational or nonvocational teacher

(i) whether employed in an urban or suburban/ rural school

(j) level of sex bias

(k) level of dogmatism

The distributional characteristics of the data were first examined. Cross tabulations were then made to examine the A and B scores by personal/situational characteristics.

Using analysis of variance, the A and B scores were examined to determine if any differences exist in the reactions of teachers to students' potential for employment and the personal/situational characteristics indicated in the hypothesis. Five of these were found to be significant (Table 4).

Table 4

Analysis of Variance of Personal/Situational Characteristics and the A and B scores

Personal/Situational Characteristics	Degrees of Freedom	A Scores High Employment and a Labor Shortage			B Scores High Unemployment and a Labor Surplus		
		Mean Square	F	Signif of F	Mean Square	F	Signfi of F
Sex	1,182	20.494	.073	.787	26.476	.055	.815
Age	2,181	20.585	.135	.874	26.561	.238	.789
Children No. of Females	5,176	25.888	.961	.443	33.863	.676	.642
No. of Males	5,176	26.197	.534	.750	34.437	.079	.995
Total Children	8,173	25.559	1.267	.264	34.439	.422	.906
Marital Status	3,180	25.711	.898	.443	33.963	.137	.938
Educational Level	6,177	25.857	.778	.588	30.847	3.606	.002*
Years Teaching Experience	5,178	20.708	.438	.821	25.580	2.087	.069
Occupations of Parents Father	64,119	26.772	.882	.707	37.428	.699	.943
Mother	30,153	22.532	1.849	.009*	31.547	1.374	.110
Vocational or Non-Vocational	1,182	20.502	.003	.954	26.428	.382	.537
Urban School or Rural/Suburban	1,182	25.657	1.083	.299	32.839	4.586	.034*
Level of Sex Bias	33,146	22.440	1.057	.398	30.170	1.172	.259
Level of Dogmatism	33,149	20.564	1.602	.031*	26.517	1.942	.004*

* $p < .05$

Significant Findings

(1) Educational Level

The educational level of the teachers was broken into 8 categories; (1) Doctorate, (2) Masters' plus, (3) Masters', (4) Bachelors' plus, (5) Bachelors', (6) Instructional II or Permanent, (7) Instructional I or Provisional, and (8) Interim or Emergency. However, no teacher included in this study held a Doctorate.

Analysis of variance did not yield significant F values when examining the A scores (Table 4). However, significant differences were found when examining the B scores: $F\ (6,177) = 30.847$, $p < .002$ (Table 4).

A t test performed on pairs of educational levels yielded significant differences when examining the B scores of those holding Master Degrees (48% of the participants) with those holding lesser degrees or certification (Table 5).

Table 5

Significant t Test Results on the Degree of Influence on the B Scores by the Teachers' Level of Education

Pairs Examined	Means	t Value	p
Masters and Bachelors	30.4884 27.3571	2.24	$<.029$
Masters and Instructional II/Permanent	30.4884 23.6429	4.64	$<.000$
Masters and Interim/Emergency	30.4884 25.4000	3.18	$<.003$

This indicates that a significant difference exists in the reactions of teachers to students' potential for employment under economic conditions of high unemployment and a labor surplus and the educational level of the teachers.

(2) Occupation of Mother

This study utilized a socioeconomic status scale for occupations developed by Reiss (1961) which ranged from 1 to 100. "Housewife" received a numeric value of 10 on the socioeconomic scale. The 103 teachers who had mothers who were housewives had an average A score of 29.3. The 31 teachers who had mothers with occupations in the upper half of the scale, 50-100, had average A scores of 22.4.

No significant differences were found when analyzing the A and B scores and the occupations of teachers' fathers (Table 3). However, significant differences were found under good economic conditions when examining the scores and the occupation of the teachers' mothers: A scores, $F(30,153) = 22.532$, $p < .009$ (Table 4).

This indicates that significant differences exist in reactions of teachers to students' potential for employment under full employment and a labor shortage and the occupation of their mother while the teacher was in high school.

(3) Urban or Suburban/Rural School Setting

A total of 18 public academic secondary schools and 3 vocational-technical schools were included in this study. The list of names can be found in Appendix I.

Analysis of variance did not yield any significant

differences in the A scores but an analysis of the B scores yielded F (1,182) = 32.839, $p < .034$ (Table 4).

Significant differences exist in the reactions of teachers to students' potential for employment under economic conditions of high unemployment and a labor shortage and whether the teacher is employed in an urban or suburban/rural school.

(4) Level of Dogmatism (open-closed mindedness)

The level of the teachers' dogmatism was measured by their responses to the odd-numbered questions found in Appendix C, Section III. The method used to score these responses can be found in Chapter III.

Analysis of variance yielded the following data: A scores (33,149) = 20.564, $p < .031$ and B scores (33,149) = 26.517, $p < .004$ (Table 4).

Significant differences exist in the reactions of teachers to students' potential for employment under economic conditions of high employment and a labor shortage, as well as economic conditions of high unemployment and a labor surplus and the dogmatism level of the teachers.

(5) Level of Sex Bias With School Setting or Vocational/ Nonvocational Teacher

While the analysis of variance did not yield significant differences between the A and B scores and the level of sex bias of the teacher (Table 4) a two-analysis of variance did (Table 6).

Table 6

Two-Way Analysis of Variance on B Scores

Two-Way Interactions	Degrees of Freedom	Mean Square	F	Signif of F
Urban or Suburban/ Rural School and Level of Sex Bias	5,178	25.580	3.614	<.029
Vocational or Nonvocational and Level of Sex Bias	5,178	25.274	4.894	<.009

The interaction between whether the teacher was employed in an urban or a suburban/rural school and the B scores yielded $F\ (5,178) = 25.580$, $p < .029$ (Table 6).

A two-way interaction between the B scores and whether the teacher was a vocational or nonvocational teacher yielded $F\ (5,178) = 25.274$, $p < .009$ (Table 6).

Significant differences exist in the reactions of teachers to students' potential for employment under economic conditions of high unemployment and a labor shortage and interactions between their level of sex bias and their school setting. Similar differences also exist when examining the B scores and interactions between whether the teacher was vocational or nonvocational and their sex bias level (Table 6).

Analysis of variance did not yield significant differences when examining the A and B scores and the other 7 personal/situational characteristics indicated in the

hypothesis (Table 4).

These findings indicate that no significant differences exist in the reactions of teachers to students' potential for employment under good or bad economic conditions as a function of their age or sex, the number and sex of their children, their marital status, the number of years of teaching experience, whether they are a vocational or a nonvocational teacher and the measured level of their sex bias.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

The law stipulates that sex discrimination must cease in educational practices. Sex bias, however, is a learned behavior and, therefore, will not simply disappear through the mandating of laws. Educators should respond to the needs and wants of all its students and address the concerns involved in complying with the various pieces of legislation dealing with equal educational opportunities for boys and girls. They must become cognizant of the covert factors which influence sex bias attitudes which result in overt sex discriminatory practices. The manifestation of such practices results in both boys and girls being channeled into restrictive roles which limit their opportunities and their earning potention.

Young people need a network of support systems when making decisions regarding occupational career choices. Teachers, while only one part of such a system, have a great influence over the decisions made by students. Students should be allowed to choose an occupational career and not be forced to assume the stereotypical patterns that restrict both boys and girls by forcing them to fulfill certain roles which others have deemed as appropriate for their sex.

This study examines whether the differences in the reactions of teachers to students' potential for employment success can be accounted for by differences in their personal/situational characteristics. These reactions were analyzed under two different economic conditions; (A) full employment and a labor shortage and, (b) high unemployment and a labor surplus.

Teachers responded to an instrument which contained items from Werner's (1979) scale to measure sexist attitudes and Rokeach's (1960) scale to measure open-closed mindedness or dogmatism (Appendix C, Section III). These responses were then scaled to indicate the level of sex bias and the level of dogmatism of the teachers. Personal characteristics included the sex, age, and marital status of the teachers, the level of the teachers' education, the number of teaching years they completed, the sex, number and educational status of their own children and the occupation of their parents while they were in high school (Appendix C, Sections I and II). The situational data included whether the teacher was vocational or nonvocational and whether their school was located in an urban or rural/suburban setting.

The teachers read interpretative data about 8 hypothetical students who took the Hall Occupational Orientation Inventory (HOOI) which is designed to help students determine in what types of occupations they would achieve job satisfaction (Appendix D). Then the teachers responded to the final instrument which required them to choose which student, out of two or more, would be more successful in a particular occupational career under the two different economic conditions; (A) full employment and a labor shortage and, (B) high unemployment and a labor surplus (Appendix F). These responses were then scaled so that statistical analyses could be made to determine if the differences in their reactions could be accounted for by the differences in their personal and/or situational characteristics (Appendix N). The research question was then converted into a null hypothesis in order to perform the statistical analyses and can be found in Chapter IV.

Summary of Findings

One of the most significant findings of this study was that, contrary to the popular belief that the answer to a greater acceptance and understanding of social change and its impact on people is more education and exposure to higher educational learning experiences, the higher the degree the teacher held, the more consistently dogmatic and sex biased behaviors occurred. A statistically significant difference was found when examining the responses made by the teachers on the final instrument when selecting which student would be more successful in a particular occupational area under economic conditions B (high unemployment and a labor surplus) and the level of the degree or certification the teachers held. The higher the level of degree or certification, the more consistently the teachers chose the traditional student over the nontraditional student. These findings relate to the studies by Trenholm and deMancillas (1978) and Weitz (1977) which found that college faculty members exhibited strong sex-role stereotyping behaviors.

The occupation of the teachers' mothers influenced the responses made by the teachers under economic conditions of high employment and a labor shortage. The higher the socioeconomic status level of the mother, the more consistently the teacher made less traditional student selections. These findings do not support literature which indicates that children do not incorporate into their value systems the importance of the occupation of their mother (Burlin, 1979; Guttentag and Bray, 1976; Schau and Bausch, 1979).

The study found that the teachers perceived success for the male nontraditional student more consistently than they did for the female nontraditional student. These findings support the studies done by Chetwynd and Harnett (1978), Lewis Kaltweider (1976), Pennsylvania Advisory Council

(1978), and Weitz (1977) which indicated that while sex bias was being demonstrated towards both sexes, more bias was exhibited towards the females. This bias was more pronounced under economic conditions of high unemployment and a labor surplus. However, the higher the level of the measured sex bias of the teachers, the more consistently they chose the traditional student over the nontraditional under high unemployment and a labor surplus.

The measured level of dogmatism significantly influenced the teachers reactions to students' potential for employment success under both economic conditions. Teachers who had low dogmatism levels also tended to have low sex bias levels and those who had high levels of dogmatism also tended to have high sex bias levels. These findings support the study by Rees and Grogan (1978) which found that authoritarian teachers were also highly sexist.

Teachers employed in an urban setting more consistently chose the traditional student over the nontraditional than the teachers from a rural/suburban setting did. These differences, however, were statistically significant only under economic conditions of high unemployment and a labor surplus when combined with the teacher's level of sex bias. These findings support the studies by Chetwynd and Hartnett (1978) and Schau and Bausch (1979) which indicate that children from the inner-city more consistently had fixed acceptable behaviors for male and female workers than the children from the rural settings.

Although the vocational teachers more consistently chose the traditional student over the nontraditional, the differences were statistically significant only when combined with their level of sex bias. These findings relate to the studies by Lewis and Kaltreider (1976) and the Pennsylvania Advisory Council (1978) which indicate that sex-stereotyping

behaviors are being exhibited by the vocational teachers.

Female teachers more consistently had lower sex bias and lower dogmatism levels than the male teachers. However, no significant differences were found in the responses made to the final instrument (Appendix F) and the sex of the teacher. These findings support the studies by Panko (1979), the Pennsylvania Advisory Council (1978) and Ryan (1960), which found that females demonstrate more favorable attitudes towards students and display less traditional attitudes than the males.

This study supports the findings of Newman (1981) and Hall and Fredrickson (1978), which indicate that older people are no more inclined to stereotype than younger people. Statistical analyses failed to yield any significant differences when examining the responses made by the teachers on the final instrument (Appendix F) and their age.

The marital status of the teachers did not influence their student selections under either of the economic conditions. This relates to the work by Farmer and Bohn (1971), which found that single and married women did not display significant differences in their career aspirations.

This study supports the findings of Hall and Fredrickson (1970) and Newman (1981) which found that the teacher with more experience did not display significantly more traditional attitudes than the less experienced teacher. No differences were found between the responses the teachers made in their student selections under either of the economic conditions or the number of years teaching experience they had completed.

The teachers who had more than two children did not respond significantly differently to the final instrument than those teachers with fewer children or no children at all. These findings relate to the studies by Diamond (1975) and Schau and Busch (1979) which indicate that the

stereotypical attitudes formed as children are passed on to the childrens' children regardless of the size of the family.

Conclusions

Subject to the limitations of this study, the following conclusions were derived from the findings:

Conclusion 1

Teachers with master degrees exhibited more sex stereotyping behaviors than teachers with lesser degrees or certification. This pattern was found regardless of the age or sex of the teacher, or whether the teacher was vocational or nonvocational. This does not necessarily indicate, however, that a cause and effect relationship exists. These responses could be attributed to a disjunctive value system rather than sex bias behaviors. Parents react positively to those behaviors they appreciate in their children and react negatively to those they do not (Diamond, 1975). The nurturing process is a strong one and appropriate masculine and feminine behaviors are fixed in the minds of children before they enter school (Holland, 1975; Katz, 1979; Money, 1972). The belief systems of individuals permeates the formal and informal, the overt and covert aspects of educational institutions and influence the behavior of the individuals (Chetwynd and Hartnett, 1978). Therefore, the value systems of the teachers and those of the students influence the perceptions each group has of the other and therefore affect the interpersonal relationships between individuals.

These findings might also be attributed to the contention that those scoring high on the dogmatic scale tend to continue their education and seek degrees more consistently than those scoring low. Therefore, the people pursuing degrees might have stronger traditional value systems and their behaviors may be linked to their dogmatism levels

rather than related to their educational pursuits. This rationale may be a valid one since this study also found that the teachers' level of dogmatism influenced their reactions to students' potential for employment regardless of the cited economic conditions. Literature supports that sex bias is a learned behavior and therefore, people will find it difficult to change these attitudes (Carmichael, 1977; Guttentag and Bray, 1976; Korda, 1973; Kreps, 1971).

Conclusion 2

It is a recent phenomena that more women work than stay at home. Housewife was listed as the occupation of 56% of the mothers of the teachers involved in the study. Only 17% of the participants had mothers in occupations considered managerial or professional.

The differences found when examining the A scores and the occupations of the teachers' mothers while the teacher was in high school may reflect the perception of mother as a housewife rather than demonstrated sex bias behavior. Although this study found that the higher the socioeconomic status of the mother the less traditional behaviors occurred, the extremely high percent of those who had mothers who were housewives may have contributed to this finding.

While literature supports that children do not incorporate the importance of the occupation of their mother into their value systems (Burlin, 1979; Guttentag and Bray, 1976; Schau and Bausch, 1979), the small percentage of teachers who had mothers in the higher socioeconomic status positions may indicate that such incorporation is taking place. However, it may be too soon to make such a determination. The value system of the children of the present working mothers will present stronger supportive data on which to make such conclusions.

Conclusion 3

This study revealed that vocational teachers tended to select the traditional student over the nontraditional student more consistently than the nonvocational teachers. The more consistant traditional selections made by the vocational teachers, however, may be due to the fact that many of these people have come from strong union shops and industries where very few women were found as fellow incumbent workers (Pennsylvania Advisory Council, 1978), and the current practices in vocational education reflect the prevalent sex stereotyping patterns (Lewis and Kaltweider, 1976). Although women were found in the local industrial complexes in Berks County during World War II, their numbers dropped considerably after the war and their participation in the nontraditional occupations, to a large degree, dissipated. Teachers are very influential in the decisions made by students choosing occupational careers (Chetwynd and Hartnett, 1978; Guttentag and Bray, 1976; Lungstrom, 1973), and many times a vocational teacher is credited with being the key person in a girl's decision to pursue a nontraditional career (Kane, Frazee and Dee, 1976). Vocational teachers are not contributing positively to the supportive network needed by the nontraditional students. However, in the next ten years a large percentage of the present vocational teachers will be reaching retirement age and will be replaced by teachers with different experiences and exposures. Although research supports that age and bias are not necessarily related (Hall and Fredrickson, 1978; Newman, 1981), the future teachers will have been exposed to the women's movement and human rights activities at a much earlier age than the present vocational teachers and may tend to exhibit less traditional attitudes toward the sexes.

Conclusion 4

Less bias was demonstrated towards the male students than was exhibited towards the female students desiring to enter a nontraditional occupation. This supports the research that indicates that while sex bias is being demonstrated against both sexes, the females are subjected to a greater degree of such bias (Chetwynd and Hartnett, 1978; Lewis and Kaltweider, 1976; Pennsylvania Advisory Council, 1978; Weitz, 1977). However, consideration must be given to the fact that the teachers had to make the student selections based only on the interpretative data supplied by the results of the Hall Occupational Inventory (HOOI). Teachers demonstrated the ability to read the interpretative information and conceptualize the meaning of the stanine scores presented. They exhibited the ability to choose the student most likely to achieve occupational success as measured by the HOOI when one student had a much higher level of predicted career success than the others. It cannot be assumed, however, that they placed any value on the predictive validity of the HOOI itself. When they had to make a choice between a male and a female student each seeking to enter a traditionally male field, the teachers could have been reflecting a sense of reality in choosing the the male rather than exhibiting sex bias behaviors or dogmatism. Teachers, especially vocational teachers, deal with the labor market on a daily basis as they help to guide student decisions and assist them in getting jobs in the world of work. Therefore, they are aware of the needs and preferences of employers and strive to place each student in a job that will be more inducive to job retention for the student.

Teachers employed in an urban setting tended to display more traditional student selections under poor economic conditions than the suburban/rural teachers did. Berks County's unique culture might have influenced these responses. Although the county residents have not been faced with as high an unemployment rate as the city, there is a large pocket of people in the City of Reading who have had a history of being chronically unemployed. Berks County is located in Pennsylvania Dutch territory, and many of its people have strong feelings and beliefs about the acceptable behavior of its men and women. Also, these people have a past history of being slow to accept change and even slower to demonstrate new behaviors.

Perhaps it is still too soon to expect to find less bias being exhibited towards the nontraditional students. Sex bias is a learned behavior which begins at birth and contributes towards attitudinal development of sex-appropriate career patterns (Diamond, 1975). Therefore, it may be necessary to wait until today's children's children choose and enter careers to determine whether major changes in sex socialization and sex stereotyping patterns occur. Kane and Frazee (1978) state that these patterns must be established before we are likely to see the elimination of segregation in vocational training classes.

Recommendations

To address the findings and the conclusions of this study, the following recommendations are made:

1). Self-analysis:

The faculties of the academic and the vocational schools should be presented with an opportunity to participate in a self-analysis of their sex bias attitudes. This should be done

in a nonthreatening environment so that the teachers will participate in such an evaluation in a positive manner. Such self-evaluation instruments are available from the Ohio Department of Education, Division of Guidance and Testing, Columbus, Ohio. An approach which places more emphasis on allowing people to examine their own beliefs without having to reveal these beliefs to others, might prove to be more successful in helping people to relate to others whose beliefs differ than lectures on sex bias. Although they may not agree with the choices made by the nontraditional student, teachers might become more aware of the ramifications of subjecting students to their personal biases rather than assisting them to analyze their career decisions. The distinction can then be made between teachers presenting students with factual information regarding nontraditional careers and biases representing long held beliefs about appropriate male and female bahavior.

2). In-service programs:

Local in-service programs should be designed which will help teachers understand the value systems of others. Although it is important for teachers to understand the laws which prohibit sex discrimination, it is also important for them to have the opportunity to examine related issues. Exposure to the women's movement, human rights, the manifestation of disjunctive value systems resulting in overt discriminatory practices and other current research should help teachers to address the needs, wants and desires of their students.

The American Institute for Research (AIR), authors of the the Vocational Education Equity Study commissioned by Congress in 1976, reported a strong positive correlation between the sex equity activities in a school and the proportion of nontraditional enrollments in vocational courses in that school. AIR also reported that few schools had undertaken these "critical" activities (Wells, 1981).

3). Further Research:

Further research is needed in the following areas:

a). Reactions of teachers in different geographic locations should be examined to determine if the findings would be similar. This study could easily be replicated in surrounding counties and states as well as nationally, thereby contributing significantly to the establishment of a broader data base from which conclusions and decisions might be drawn.

b). Research involving the higher educational institutions should be conducted to determine if students involved in the pursuit of higher degrees are being exposed to learning experiences which are contributing to their sex biased and dogmatic behaviors. Since the data indicate that the higher the degree, the higher the sex biased behaviors, it is important to analyze whether there are contributing factors within the higher educational scene or whether this finding can be attributed to other influences.

c). As more women enter the workforce and move into a wider variety of occupations, studies should be implemented to determine how childrens' value systems are affected.

While the ramifications of the movement of women into the labor force presents a plethora of research possibilities, the value systems of people impinge on many of them. The increase of working mothers should be researched to determine if the importance of the occupations of these mothers were incorporated into the value systems of their children.

d). The sex bias level of teachers who prepare students for secondary programs should be examined. If such bias exists, it may affect students' career goals indirectly by influencing their choices of secondary educational programs.

e). Guidance counselors play a vital role in the determination of which students will enter different educational programs. Further research should be conducted in order to determine if their attitudes are contributing positively to the supportive network needed by the non-traditional students.

f). Research should be conducted which would include the attitudes of parents towards their children entering nontraditional occupational career areas. These studies should include measuring the awareness of parents of the sex discrimination laws and their knowledge of the extent of sex stereotyping practices which might be occurring within the educational system.

g). Employers should be included in research studies to

determine if their sex bias attitudes correlate with their hiring practices. It would also be interesting to determine the extent of their knowledge of laws such as Title VII, Title IX, and the Human Rights Commission Rules and Regulations.

Implications

Although society has determined that parameters for occupations need to be redefined to meet legal requirements and to allow students to pursue the occupations of their choice, teachers have made little progress in accepting this concept. The findings of this study imply that vocational teachers have not been able to incorporate into their value systems the attitude that occupations should not be stereotyped.

Higher educational programs responsible for training and preparing teachers must provide opportunities for teachers to build the necessary skills, knowledge and attitudes which will allow them to analyze the wants, needs and desires of their students and assist them in the pursuit of rewarding occupational careers. Such emphasis will allow the teachers to contribute positively to the supportive network which is needed by students who enter nontraditional occupational areas. Teachers have no right to impose their set of values onto their students; rather, they must be able to guide and direct each individual student towards achieving skills which will enable him or her to contribute to society in a meaningful manner, while at the same time, achieving personal satisfaction.

The behavior of people always has been, and probably always will be, a fascinating subject. But, it seems our society has come to a point

where we believe that if we want to effect change all we have to do is to issue mandates and change will occur. Such an attitude in conjunction with our fast pace of life has led us to believe that change should happen quickly. Perhaps it is time that we become cognizant of how change actually occurs. It is a slow process; one which might even take on an appearance totally unexpected.

Without allowing personal attitudes to interfere, teachers should help students to achieve their fullest potential in the pursuit of rewarding occupational careers. But the bottom line is that teachers, with their power to influence young people, must be willing and able to expose students, regardless of their sex, to all the occupational opportunities available to them. This is their right legally and should also be their right morally.

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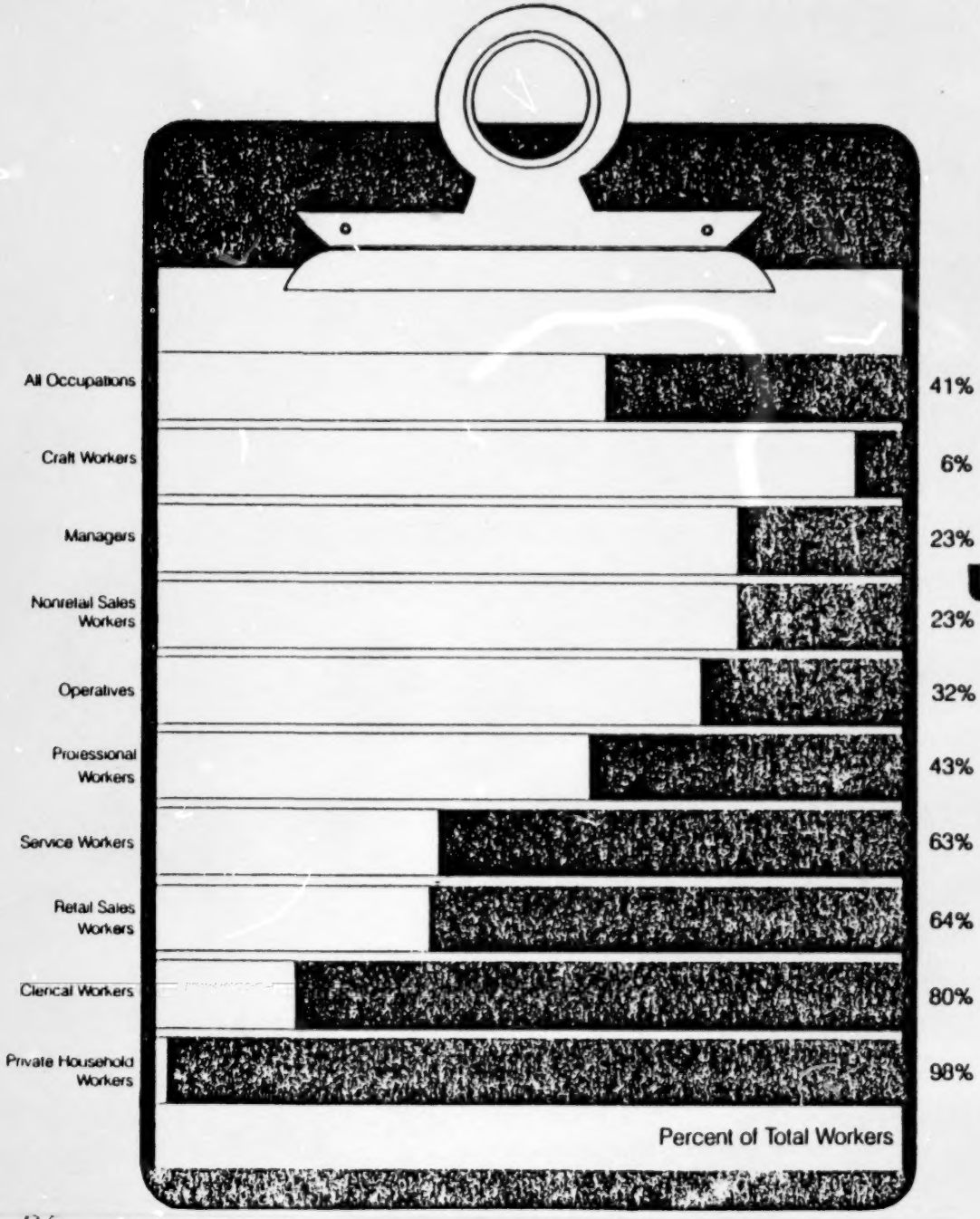


Women are underrepresented as managers and skilled craft workers

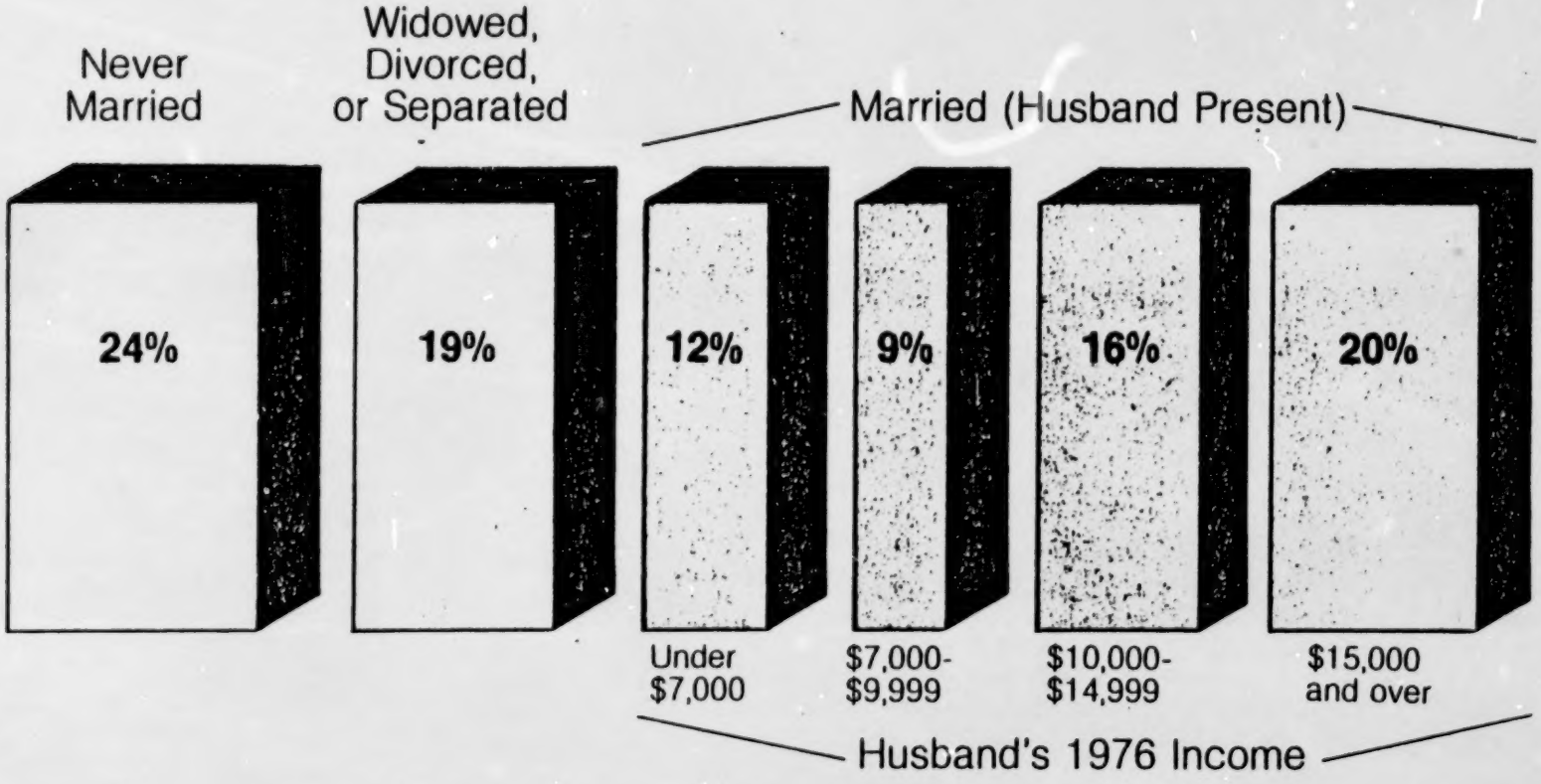
APPENDIX A

Source: Prepared by the Women's Bureau, Office of the Secretary, from 1978 annual averages data published by the Bureau of Labor Statistics, U.S. Department of Labor.

August 1979

Most Women Work Because of Economic Need

(Women in the Labor Force, by Marital Status, March 1977)



Source: Prepared by the Women's Bureau, Office of the Secretary, from data published by the Bureau of Labor Statistics, U.S. Department of Labor.

(APPENDIX B)

APPENDIX C

PARTICIPANT DATA INFORMATION

**All of the information provided in this questionnaire will be kept confidential. NO participant, nor school, will be identified by name. This information will be used for statistical research purposes only. PLEASE RESPOND TO ALL QUESTIONS!

SECTION I: Thank you!

(1) SEX	(2) AGE	(3) RACE	(4) TYPE OF SCHOOL WHERE EMPLOYED
⬭ male ⬭ female	⬭ 20 - 35 ⬭ 36 - 50 ⬭ 51 - up	⬭ black ⬭ white ⬭ hispanic ⬭ other	⬭ Area Vo-Tech ⬭ Secondary High School

(5) MARITAL STATUS	(6) HIGHEST DEGREE OR CERTIFICATION HELD	(7) YEARS OF TEACHING EXPERIENCE
⬭ now married ⬭ widowed ⬭ divorced ⬭ separated ⬭ never married	⬭ Doctorate ⬭ M.S. + ⬭ M.S. ⬭ B.S. + ⬭ B.S. ⬭ Instructional II or Permanent ⬭ Instructional I or College Provisional ⬭ Interim or Emergency	⬭ 20 yrs. + ⬭ 15-19 years ⬭ 10-14 years ⬭ 5-9 years ⬭ 1-4 years ⬭ less than 1 year

(8) NUMBER OF BROTHERS & SISTERS	(9) OCCUPATIONS OF YOUR PARENTS WHILE YOU WERE IN HIGH SCHOOL	(10) MAJOR TEACHING ASSIGNMENT (SUBJECT)
_____ Sisters _____ Brothers	Mother: _____ Father: _____	_____

SECTION II:

The following information relates to the educational status of your children. If you do not have children, please place an "X" in the box and proceed to Section III. ☐

DROP OUTS:

If any of your children started a program listed below but did not complete graduation requirements, please indicate this by placing a circle around the number as per example.

DROP OUT EXAMPLE: (1)

EDUCATIONAL STATUS	NUMBER OF FEMALE CHILDREN Indicate Number	NUMBER OF MALE CHILDREN Indicate Number
1. Too young to be in school.....	____	____
2. Now in kindergarten or grade school.....	____	____
3. Now in junior high school.....	____	____
4. Now in secondary vocational programs....	____	____
5. Now in regular secondary programs.....	____	____
6. Now in post-secondary vocational programs.....	____	____
7. Now in a 2 or 4 year college.....	____	____
8. Graduated from a 2 or 4 year college....	____	____
9. Graduated from a post-secondary vocational-technical program.....	____	____
10. Graduated from a regular secondary program but did not pursue further education.....	____	____
11. Graduated from a secondary vocational program but did not pursue further education.....	____	____

SECTION III: You will read below some statements people have made as their opinion on several topics. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about still others. What is sought is your personal opinion. As you read each statement, first indicate in Column I whether you agree or disagree by using a "+" for agree and a "-" for disagree. In Column II, please indicate the level of agreement or disagreement by using 1, 2, or 3.

AGREE = +	DISAGREE = -
1 = agree a little	1 = disagree a little
2 = agree on the whole	2 = disagree on the whole
3 = agree very much	3 = disagree very much

(I)	(II)		
_____	_____	1.	My blood boils whenever a person stubbornly refuses to admit he's wrong.
_____	_____	2.	It is more important for a woman to mantain an attractive appearance than it is for a man.
_____	_____	3.	Most people just don't know what's good for them.
_____	_____	4.	Girls should be more closely watched than boys.
_____	_____	5.	Man on his own is a helpless and miserable creature.
_____	_____	6.	A woman should be expected to give first priority to household responsibilities as opposed to her career.
_____	_____	7.	It is better to be a dead hero than to be a live coward.
_____	_____	8.	A man has the right to expect his wife to be a virgin when they marry.
_____	_____	9.	Most people just "don't give a damn" for others.
_____	_____	10.	Women using obscene language are more repulsive than men using such language.
_____	_____	11.	The United States and Russia have just about nothing in common.
_____	_____	12.	Children need to have their mother available on a full-time basis.
_____	_____	13.	It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
_____	_____	14.	Women who advocate women's liberation should solve their problem through individual therapy rather than attempt social change.
_____	_____	15.	In a discussion, I often find it necessary to repeat myself several time to make sure I am being understood.
_____	_____	16.	Educational institutions should direct women into occupations traditionally performed by women.

RESULTS OF APPLICATION OF THE HALL OCCUPATIONAL ORIENTATION INVENTORY

INSTRUCTIONS:

Eight (8) hypothetical students took the Hall Occupational Orientation Inventory which is designed to help students to identify those things they want in an occupation as well as those things they do not want in an occupation. The "CHOSEN CAREER" indicates the occupational area they wish to enroll in at the vocational-technical school.

.....

Student #1: Rose Martin CHOSEN CAREER: Auto Mechanics

Rose attained a stanine score of 8 in "Things Orientation". This indicates that she would like to operate, adjust, or repair tools, machinery, or other equipment and that she would like to work mostly with her hands and have the results of her work seen by others. She had a stanine score of 2 on "Data Orientation" which indicates that she would not like to work with data rather than people. In the area of "Personal Satisfaction, she got a score of 7 which indicates a strong need for a job that gives more personal than financial rewards.

Student #2: Harry DeTurk CHOSEN CAREER: Auto Mechanics

Harry attained a stanine score of 5 in "Things Orientation". This indicates that he felt that most of the items relating to this scale were unimportant. In the area of "Data Orientation"he got a stanine score of 9 which indicates that he has a strong need to work with printed materials and data rather than people. Harry got a stanine score of 9 in "Monetary Concern" which indicates a strong concern for monetary work rewards.

Student #3: Mary De Dadamio CHOSEN CAREER: Masonry

Mary received a stanine score of 7 in the area of "Aspiration" which indicates a strong need for work in which she could gain fast promotions and success by determination and hard work. In "Self-Actualization", she got a stanine score of 8 which indicates a strong need for work that allows the development of individual personality and talents. In the area of "Things Orientation",her score was 2 which indicates little interest in working with her hands.

Student #4: Walter Adamski CHOSEN CAREER: Masonry

Walter received a stanine score of 9 in "Things Orientation" which indicates a strong need for work in which he can handle physical objects. In "Location Concern", Walter received a score of 8 which indicates strong feelings about where a job is located. In the area of "Esteem", he received a stanine score of 2 which indicates little concern to gain a high position in the community or to influence others.

Student #5: Kathleen Baker CHOSEN CAREER: Cosmetology

Kathleen scored a stanine of 8 in "People Orientation" which indicates a strong need for work in which she would spend most of her time with people. She also scored an 8 in "Creativity and Independence" and this indicates that she has a strong need to use imagination and her own ideas on a job. She attained a score of 7 in the area of "Personal Satisfaction" which indicates that she has a strong need for more personal than financial rewards.

Student #6: Robert Brown CHOSEN CAREER: Cosmetology

In the area of "People Orientation" Robert got a stanine score of 9. This indicates a strong need for work in which he would spend most of his time with people. In the area of "Creativity and Independence", his stanine score was an 8 which indicates a strong need to use imagination and creativity on the job. Robert got a stanine score of 3 in the area of "Security" which indicates little concern about working for a large organization that offers financial security.

Student #7: Margaret Schuster CHOSEN CAREER: Health Assistant

Margaret scored a stanine of 8 in the area of "Monetary Concern". This indicates strong feelings about monetary work concerns. She scored a stanine of 3 in "Aptitude Concern" which indicates little concern for school achievement. In the area of "Routine-Dependence", Margaret got a stanine of 8 which indicates a strong need for routine work in which there is a set plan with few changes and require close supervision.

Student #8: James Skrapits CHOSEN CAREER: Health Assistant

James scored a stanine of 5 in the area of "Monetary Concern". This indicates little concern over monetary rewards for work. In the area of "Information-Knowledge", James scored a stanine of 2. This indicates little concern for the accumulation of information and knowledge. In the area of "Things Orientation", he got a stanine score of 8 which indicates a strong need to work in areas of operating, adjusting or repairing machinery.

APPENDIX E

STUDENT RESULTS FROM THE HALL OCCUPATIONAL ORIENTATION INVENTORY

STUDENT NUMBER	STUDENT NAME	SELECTED CAREER AREA	JOB INTEREST AS PREDICTED BY HOOI
1	Rose Martin	Auto Mechanics	Yes
2	Harry DeTurk	Auto Mechanics	No
3	Mary DeDadamio	Masonry	No
4	Walter Adamski	Masonry	Yes
5	Kathleen Baker	Cosmetology	Yes
6	Robert Brown	Cosmetology	Yes
7	Margaret Schuster	Health Assistant	No
8	James Skrapits	Health Assistant	No

TRUTH TABLE: MALE/FEMALE COMBINATIONS OF JOB INTEREST AS PREDICTED BY HOOI

CAREER SELECTED	MALE		FEMALE	
	TRADITIONAL	NONTRADITIONAL	TRADITIONAL	NONTRADITIONAL
Auto Mechanics	No			Yes
Masonry	Yes			No
Cosmetology		Yes	Yes	
Health Assistant		No	No	

STUDENT RATING SHEET

INSTRUCTIONS: After reading the results of the 8 students who took the Hall Occupational Orientation Inventory, and based only on the information provided, please respond to each question under each column. Column "A" relates to economic conditions of full employment and a labor shortage, and Column "B" relates to economic conditions of high unemployment and a labor surplus. Therefore, each question should have a response under both columns.

PLEASE FEEL FREE TO REFER TO THE PINK SHEETS, "RESULTS OF APPLICATION OF THE HALL OCCUPATIONAL ORIENTATION INVENTORY" AT ANY TIME.

	A: Economic conditions of full employment and a labor shortage. (please circle)	B: Economic conditions of high unemployment and a labor surplus. (please circle)
1. Between students #1 and #2, which student do you perceive will be more successful in the career of Auto Mechanics?	1 2	1 2
2. Between students #3 and #4, which student do you perceive will be more successful in the career of Masonry?	3 4	3 4
3. Between students #5 and #6, which student do you perceive will be more successful in the career of Cosmetology?	5 6	5 6
4. Between students #7 and #8, which student do you perceive will be more successful in the career of Health Assistant?	7 8	7 8
5. Among Students #1,#3,#5, and #7, which student do you perceive will be more successful in his/her chosen field?	1 3 5 7	1 3 5 7
6. Among students #2,#4,#6, and #8, which student do you perceive will be more successful in his/her chosen field?	2 4 6 8	2 4 6 8
7. Between students #3 and #7, which student do you perceive will be more successful in her chosen field?	3 7	3 7
8. Between students #2 and #8, which student do you perceive will be more successful in his chosen field?	2 8	2 8
9. Between students #4 and #6, which student do you perceive will be more successful in his chosen field?	4 6	4 6
10. Between students #1 and #5, which student do you perceive will be more successful in her chosen field?	1 5	1 5

BERKS VOCATIONAL-TECHNICAL SCHOOL

AN EQUAL OPPORTUNITY EMPLOYER

2900 St. Lawrence Avenue
Antietam Valley Center
Reading, PA 19606
(215) 779-7111

TO: Berks County Guidance Counselors

FROM: Doris M. Epler, Curriculum Supervisor

RE: Research in the area of teacher perception and student occupational career success.

DATE: October 16, 1979

I am conducting some research in the area of attempting to identify if relationships exist between certain teacher variables and the perceptions those teachers hold of students who choose traditional and nontraditional career occupations. The Hall Occupational Orientation Inventory will be the basis of data presented to teachers about hypothetical students and their occupational career choices.

I would appreciate if you would assist me in this endeavor by reading the attached "Score Descriptions" as criteria supplied by the Hall Occupational Orientation Inventory and then analyze the 8 hypothetical students presented. I am trying to determine if the scores I have indicated under each student would, or would not, indicate that the student, according to the Hall Occupational Orientation Inventory, would have a predicted interest in the specified occupation.

Please take this information along with you, and, at your leisure, respond to the 8 blurbs on the hypothetical students. I have provided a self-addressed stamped envelope for your convenience.

If you would like to receive a summary of the research findings, please indicate so by placing your name and address on the evaluation form. However, if you wish to remain anonymous, please feel free to do so.

Thank you for your time and consideration in helping me to conduct this research project.

enc.

APPENDIX H

GUIDANCE COUNSELOR EVALUATION FORM

*** Student #1:

8 - Things Orientation
2 - Data Orientation
7 - Personal Satisfaction

Based on the criteria as indicated by the HOOI and considering the occupation of Auto Mechanics, the student profile

_____ indicates an interest in Auto Mechanics

_____ does not indicate an interest in Auto Mechanics

*** Student #2:

5 - Things Orientation
9 - Data Orientation
9 - Monetary Concern

Based on the criteria as indicated by the HOOI and considering the occupation of Auto Mechanics, the student profile

_____ indicates an interest in Auto Mechanics

_____ does not indicate an interest in Auto Mechanics

*** Student #3:

7 - Aspiration
8 - Self-actualization
2 - Things Orientation

Based on the criteria as indicated by the HOOI and considering the occupation of Masonry, the student profile

_____ indicates an interest in Masonry

_____ does not indicate an interest in Masonry

*** Student #4:

9 - Things Orientation
8 - Location Concern
2 - Esteem

Based on the criteria as indicated by the HOOI and considering the occupation of Masonry, the student profile

_____ indicates an interest in Masonry

_____ does not indicate an interest in Masonry

*** Student #5:

8 - People Orientation
8 - Creativity and Independence
7 - Personal Satisfaction

Based on the criteria as indicated by the HOOI and considering the occupation of Cosmetology, the student profile

_____ indicates an interest in Cosmetology

_____ does not indicate an interest in Cosmetology

*** Student #6:

9 - People Orientation
8 - Creativity and Independence
3 - Security

Based on the criteria as indicated by the HOOI and considering the occupation of Cosmetology, the student profile

_____ indicates an interest in Cosmetology

_____ does not indicate an interest in Cosmetology

*** Student #7:

8 - Monetary Concern
3 - Aptitude Concern
8 - Routine-Dependence

Based on the criteria as indicated by the HOOI and considering the occupation of Health Assistant, the student profile

_____ indicates an interest in Health Assistant

_____ does not indicate an interest in Health Assistant

*** Student #8:

5 - Monetary Concern
3 - Information-Knowledge
8 - Things Orientation

Based on the criteria as indicated by the HOOI and considering the occupation of Health Assistant, the student profile

_____ indicates an interest in Health Assistant

_____ does not indicate an interest in Health Assistant

APPENDIX I

PUBLIC ACADEMIC SCHOOLS OF READING & BERKS COUNTY

1. Antietam School District
2. Boyertown School District
3. Brandywine School District
4. Conrad Weiser School District
5. Daniel Boone School District
6. Exeter School District
7. Fleetwood School District
8. Governor Mifflin School District
9. Hamburg School District
10. Kutztown School District
* 11. Muhlenberg School District
12. Oley Valley School District
13. Reading School District
14. Schuylkill Valley School District
15. Tulpehocken School District
16. Twin Valley School District
17. Wilson School District
18. Wyomissing School District

VOCATIONAL-TECHNICAL SCHOOLS OF READING & BERKS COUNTY

1. Berks Vocational-Technical School, East Center
2. Berks Vocational-Technical School, West Center
3. Reading-Muhlenberg Vocational School

The above schools comprise all of the public secondary schools in the County of Berks and the City of Reading in the Commonwealth of Pennsylvania.

* During the data collection period of this research study, the teachers in the Muhlenberg School District were on strike. Therefore, the Muhlenberg School District had to be eliminated from participation. All other schools responded to all submitted instruments.

APPENDIX J

BERKS VOCATIONAL-TECHNICAL SCHOOL

AN EQUAL OPPORTUNITY EMPLOYER

2900 St. Lawrence Avenue
Antietam Valley Center
Reading, PA 19606
(215) 779-7111

September 12, 1980

Dear

On Thursday, September 11, 1980, the Chief School Administrators voted unanimously to permit me to contact all secondary school principals in Berks County to request participation in a research project.

I am a doctoral candidate in Vocational Education at Temple University and I am beginning to collect data for my study. The proposal calls for a comparison of how teachers perceive career success for students who choose occupations which are considered to be nontraditional for their sex and certain teacher variables in order to try to ascertain if any relationships exist.

I would like your permission to include _____ of your teachers in this study. The number of participants from each school in Berks County to be included in this study was based on the percentage formulas used to determine the number of students from each school who could attend the vocational-technical schools. Based on pilot testing, the time required, including the explanation, distribution and collection of all forms, is approximately 20 to 40 minutes. Strict confidentiality will be maintained and no teacher, nor any school, will be identified by name.

The testing instruments would be best administered by one of your staff members, perhaps a guidance counselor. This person will receive a stipend of $50.00 for such services as performing a random selection of participants, administering the testing instruments, gathering all the documents when completed by the participants, and returning all items to me.

A form for the designation of this person is attached and I have also included a self-addressed stamped envelope for its return to me. As soon as I receive this form, I will be in contact with the person you have chosen in order to complete all the necessary arrangements. I am striving to have all of my data collected before October 10th so I would greatly appreciate the prompt return of the form.

Thank you for your cooperation!

Yours truly,

enc.

Doris M. Epler
Curriculum Supervisor

BERKS COUNTY SCHOOLS

APPENDIX K

PERMISSION FOR PARTICIPATION IN THE DOCTORAL RESEARCH STUDY BY DORIS M. EPLER

I give my permission for the person identified below to administer a brief research instrument designed by Doris M. Epler. I understand that this instrument will gather demographic data of the participants and that an attempt will be made to compare these variables to the perceptions the teachers hold about students who choose nontraditional occupational careers. I also understand that the following conditions will be adhered to:

(1) No teacher will be required to place his/her name on any instrument.

(2) The testing instruments will be administered by the person identified below.

(3) The time required for the completion of the forms by the participants will be approximately 20 to 40 minutes.

(4) All data collected will be reported and discussed in a manner specific for the purposes of the study only.

(5) The school will not be specifically identified in the study.

(PLEASE CHECK THE APPLICABLE CONDITIONS LISTED BELOW)

( ) Yes, please feel free to contact _____
(assigned test administrator)
who has been given permission to cooperate with you in this study.

( ) I will sign under the following conditions:

( ) I would prefer additional details and/or information. You may contact me at : _____
(telephone number)

( ) I prefer not to have our teachers included in this study.

_____ (Date)

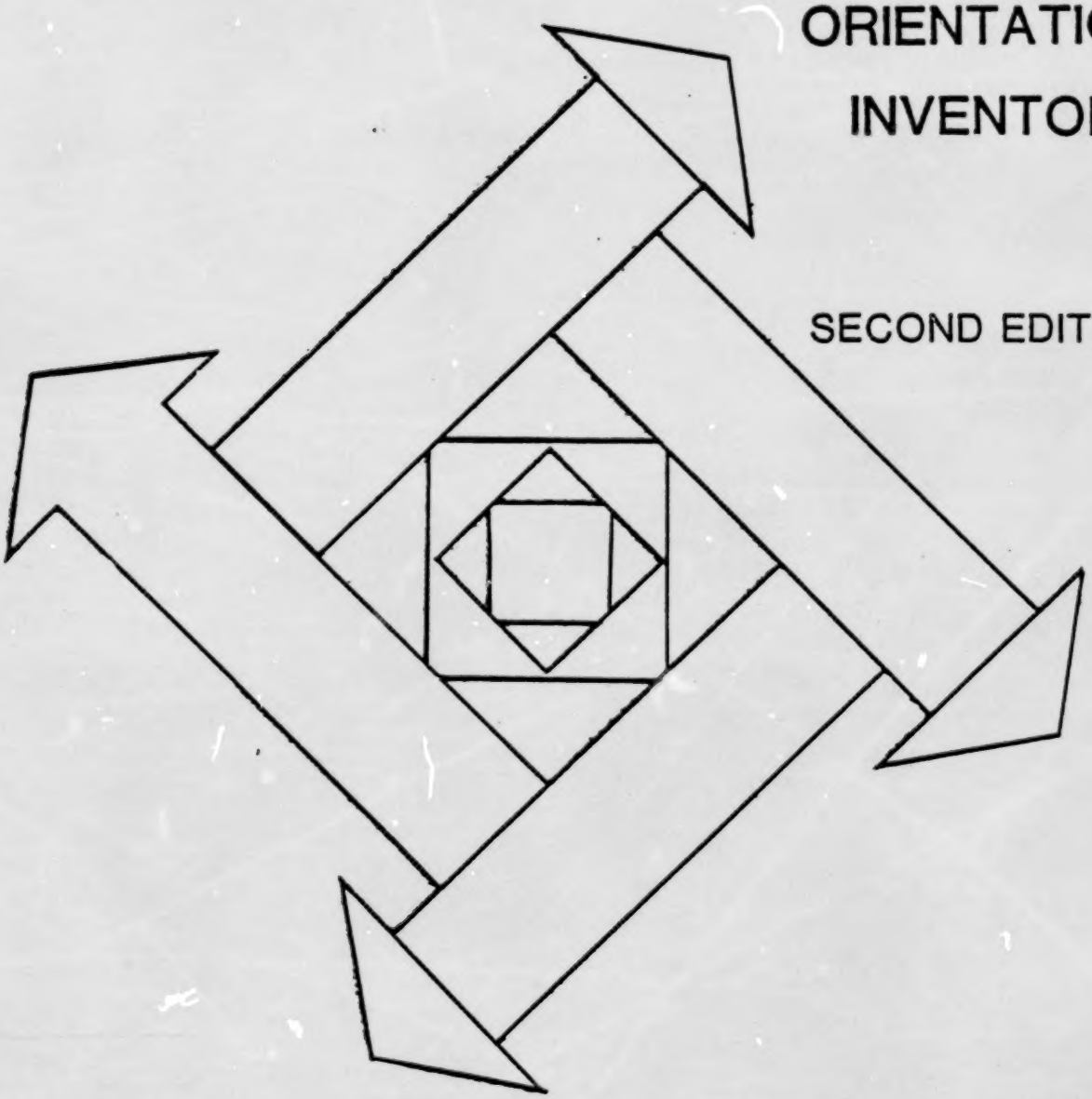
_____ (School Administrator)

_____ (Position)

_____ (School District)

THANK YOU!!!

HALL OCCUPATIONAL ORIENTATION INVENTORY



SECOND EDITION

***Reprinted by permission from Scholastic Testing Service, Inc. May 8, 1981

L. G. HALL

SCHOLASTIC TESTING SERVICE, INC. 480 Meyer Road, Bensenville, Illinois 60106

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Directions

The *Hall Occupational Orientation Inventory* consists of 220 statements that might describe a job that you have the opportunity of filling. Rate each statement according to how you would feel about taking a job to which each statement applied. Here is the key to use:

M—Most Desirable	You want a job to have the characteristic described by this statement. You would be unhappy about any job that did not have the characteristic described.
D—Desirable	You would prefer a job about which the statement were true. The characteristic described by the statement would increase your satisfaction with the job.
N—Not Important	You would not care whether or not the statement were true about your job. The job characteristic described would make very little difference to you.
U—Undesirable	You would not like for the statement to be true about your job. You would prefer a job that did not have the characteristic described.
V—Very Undesirable	You would not willingly take any job that had the characteristic described. You could not be satisfied with a job about which the statement were true.

Mark your response on the separate *Response Sheet*, making an *X* through the letter you think most nearly represents your feeling about each statement.

For example:

You work in a cold climate. m d n X v

(Mark the way you feel about working in a cold climate. Do not think about any particular job that might include working in a cold climate, nor about any other part of the work.)

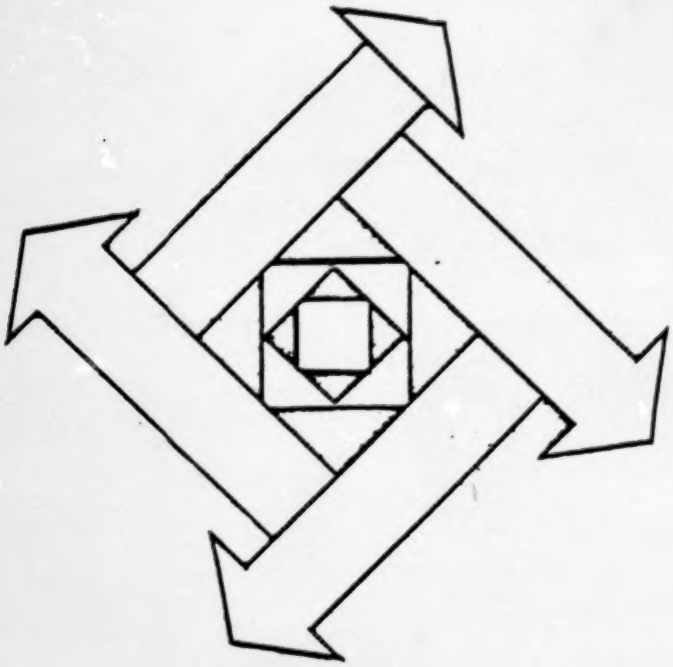
You are your own boss. X d n u v

On this inventory there are no right or wrong answers, so just record what is true for you as you respond to each statement. Remember, you will not be criticized for any response you give, and you need not try to impress anyone. Your goal is to learn more about yourself—what you need and like and value. When you are aware of your own feelings about work, you are able to make wiser job decisions.

Judge each statement by itself. Do not compare the statements with each other to choose the most desirable or the least desirable. Rate each statement as though it were the only one to consider.

Work as rapidly and as carefully as you can. Please do not omit any of the statements.

If you change your mind after marking a response, blacken out the response you want to change, then put an *X* on the letter that shows your new response. When you score your *Response Sheet* later, remember to count only the responses marked with an *X*. m d ■ u X



HALL OCCUPATIONAL ORIENTATION INVENTORY

SECOND EDITION

Young Adults (Grades 7–12)

Introduction

You will very likely spend most of your adult life employed in one or more occupations. Probably no other activity will involve so much of your time and effort, offer such a variety of rewards, and satisfy so many of your personal needs as will your daily work.

At present, there are over 22,000 different occupations in our country. This number is always increasing. Some of these occupations will satisfy your particular needs, values, and abilities better than others.

Occupational choice is the process of identifying your needs, values, and abilities and determining which occupations will best satisfy you as a total person. Because the variety of occupations is great and because each person is complex and unique, this process of occupational choice becomes one of the most perplexing problems a person faces. You will make many decisions in the process of selecting an occupation. The *Inventory* (*HOOI*) that you have just completed will help.

The *HOOI* is designed to (1) help you identify those things you feel you very much want in an occupation, (2) help you identify those things you feel you very much don't want in an occupation, and (3) provide you with the kind of written format that will make it easy for you to discuss with your counselor and others the relationship of your values, needs, and feelings to occupations that appeal to you.

It is not the purpose of the *Inventory* to name or pick out an occupation for you. No inventory can really do that. You should use the information you learn about yourself from taking the *HOOI* to help you explore those occupations that already appeal to you and that you think you might pursue. The *HOOI* directs you to think about work from three different, but related, points of view.

First, work and employment in general can be thought about from the viewpoint of *psychological needs*. Many people expect an occupation to meet such needs as these: the need to belong and feel accepted, to feel worthwhile and important, to

SCHOLASTIC TESTING SERVICE, INC./480 Meyer Road, Bensenville, Illinois 60106

have information and knowledge, to realize one's potential, and to feel secure, yet challenged.

Your scores on the *Inventory* can assist you in identifying some of these needs as well as others that have been found to be important in occupational satisfaction. These scores will indicate how strongly you feel about many of your needs. The scores will also serve as a basis for exploring the meaning of these needs and any relationship that may exist between such needs and the occupations you have thought about or occupations you might like to learn more about.

A second way of thinking about occupations is from the viewpoint of *worker traits*. These traits are nothing more than the mental and physical abilities you must possess to perform certain work satisfactorily. For instance, the worker traits involved in the daily work of a high school English teacher are quite different from those used by a radio and television repairman. Your success in whatever occupation you eventually select will depend on certain worker traits. Findings reported by the United States Department of Labor involving over 4,000 different jobs have revealed that there are certain human traits that the individual must possess if he is to perform his job satisfactorily. These traits differ considerably from job to job.

Your scores on the *Inventory* will also assist you in identifying certain traits that are known to be of importance and concern to many individuals in the satisfactory performance of their jobs. These scores will indicate how strongly you feel about using these traits in a job. Your concern about these traits will serve as a basis for exploring further any relationship that may exist between these traits and the occupations you are thinking about.

A third way in which you can think about work is from the standpoint of *job characteristics*. These characteristics are the work behavior and job tasks the individual actually performs. For instance, an assembly line worker and the manager of a shoe store do different things in their daily work, and the environments in which they work are different. Thus, the job characteristics for these jobs would be quite different.

Your scores on the *Inventory* will enable you to identify some job characteristics that are known to be of importance and concern to many individuals. These scores will indicate how strongly you feel about these job characteristics. Your concern about these characteristics will serve as a basis for exploring any relationship that may exist between these characteristics and occupations you are thinking about.

Summarizing briefly, your scores on the *HOOI* will help you identify some psychological needs, worker traits, and job characteristics in such a way as to realize the direction and intensity of your feelings about them. Through interpretation and counseling, you will learn the relationships between these traits and occupations, and you will learn to better understand yourself and the occupational world.

Completing Your Profile Sheet

On page 4 of this *Interpretive Folder* is a profile sheet listing the 22 scales that correspond to the 22 raw scores you recorded on your *HOOI Response Sheet*.

Beginning with the first scale (CI—Creativity, Independence), transfer the raw scores from your *Response Sheet* to your profile sheet by circling the number that corresponds to the score on your *Response Sheet*.

That is, if your score on the first scale is 25, circle that number on the profile sheet. If the exact number of your score is not on the profile sheet, make a small circle in the spot where that number would appear. For example, if your score is 21, make a small circle between the 20 and 22 in the spot where 21 would be.

After completing this step for each of the 22 scales on the profile sheet, draw your profile by connecting the circles. Beginning at the circle on the first scale, draw a line to the circle on the second scale; continue to the circle on the third scale, and so on.

Interpreting Your Scores

The scales on which you achieved extreme scores are good places to begin exploring the statements within the scales and relating them to yourself and to any occupations you are thinking about.

Extreme scores (stanines of 1-2-3 and 7-8-9) on the first thirteen scales of the *HOOI* profile sheet indicate occupational areas about which you have strong feelings. Look at pages 5, 6, and 7 of this *Interpretive Folder* for information explaining the meaning of scores on these thirteen scales.

Extreme scores (stanines of 1-2-3 and 7-8-9) on scales 14 through 22 have a different meaning. See pages 7 and 8 of this folder for the meaning of scores on these scales.

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M—Most Desirable
D—Desirable
N—Not Important
U—Undesirable
V—Very Undesirable

1. There is freedom to do the job your way.
2. You have to adapt quickly to new situations and to emergencies.
3. Continual accumulation of information and knowledge is an important part of your job.
4. Through the work you become a member of a group or team.
5. There are very few unexpected dangers involved in the work.
6. Success in the job usually requires great determination.
7. Decisions you make on the job affect many people.
8. You have good opportunity for self-expression on the job.
9. You can feel pride in your work.
10. The work is part of an assembly line.
11. You coordinate information between your office and others.
12. You make physical objects in the job.
13. You give people advice in your job.
14. There are very good schools in the area where you work.
15. Common sense rather than special knowledge is required in the job.
16. Your pay increases as the cost of living rises.
17. You must move your hands and fingers with speed and accuracy.
18. While you work, music is played in the background.
19. Your co-workers are interesting people.
20. Previous experience is not required for employment.
21. Regular working hours enable you to plan your home life exactly.
22. To get ahead, you have to be friendly with persons you don't really like.

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4

23. It is important to develop new ideas and suggestions in the job.
24. The work you do may harm your health or be physically injuring.
25. You can continue going to school while on the job.
26. You have a close friend to work with you.
27. You are assured of fair promotions in the job.
28. You get a bonus in salary for good work.
29. It is a job in which you can feel very successful.
30. The job brings out the best in you.
31. It is a job you like very much.
32. You do not have to think about your work as you do it.
33. In the work, your observations of changes are recorded and compared.
34. You feed an automatic machine on the job.
35. Through your work you get to know people very well.
36. Your work is located within easy visiting distance of your home town.
37. The job requires more than average intelligence.
38. Your starting salary is small, but increases rapidly.
39. The job requires you to do quite a bit of climbing.
40. You are not allowed to smoke on the job.
41. Some of your co-workers are not high-school graduates.
42. A high-school education is sufficient to qualify you for the job.
43. The work has seasonal peak and slack periods.
44. You can complain about things on the job.

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5

45. You frequently learn new ways of doing things in your job.
46. Special clothes are needed for protection on the job.
47. In your work you explore and search for new truths.
48. People in your community approve of your work.
49. Your employer does not hold you financially responsible for mistakes you make on the job.
50. Extra work without extra pay is sometimes expected of you.
51. Through your work you become friends with important people.
52. You use a variety of your work talents each day.
53. The value of the work is recognized by your friends.
54. You have a set work plan to follow.
55. You work mostly with printed material and data rather than with people.
56. In the work, you adjust and repair machinery.
57. It is a job in which you teach or train people.
58. The work is performed out-of-doors.
59. The job requires you to have the skill or knowledge of an expert.
60. The company supplies you with a good pension and retirement plan.
61. You are on your feet, standing and walking, most of the workday.
62. Your work and living environment is free from pollution.
63. Your co-workers are people of different races.
64. You must pass a special examination to get the job.
65. You are employed only nine months out of the year.
66. You can sometimes use company materials for your personal needs.

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6

67. You create original things in your work.
68. Your work may expose you to financial loss.
69. The work requires that you put ideas on paper clearly and accurately.
70. Because of your job, you are a wanted and important part of the company.
71. The job does not expose you to public criticism.
72. Promotions are more available to workers who are willing to change jobs and to move from town to town.
73. The local newspaper frequently reports on your work.
74. The job requires your continual personal development.
75. Your work gives you much personal satisfaction.
76. Changes are seldom necessary in your work.
77. It is work in which you keep accurate, detailed records.
78. The results of your work can be seen and measured by others.
79. Most of your time is spent dealing with people.
80. You work in an area with a high crime rate.
81. Accuracy in reading and writing is essential to your job.
82. Your salary gets smaller in your later years of work.
83. You must have good physical balance and body coordination.
84. The work is performed in an air-conditioned atmosphere.
85. Your co-workers are younger than you.
86. To get the job you must join a union.
87. You may have time off whenever you like.
88. You can express your anger on the job.

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89. From time to time new duties are assigned to you.
90. There are frequent times of rush and pressure in the job.
91. Increase in pay is based on how well you know your job.
92. You are treated like a person on the job.
93. A large, reliable organization employs you.
94. It is a job where you can become part owner of the business.
95. Your work gives you a high position in your community.
96. There are many opportunities to learn new skills on the job.
97. The rewards of your work are more personal than financial.
98. You must depend on someone else for your work.
99. Careful measurements are made and recorded in your work.
100. You work mostly with your hands.
101. In your work, people confess things to you.
102. You work in a mountainous area.
103. Speed and accuracy with numbers are an important part of your work.
104. Your starting salary is good, but it increases slowly with experience.
105. You must talk most of the workday.
106. You work alone.
107. Most of your co-workers are single.
108. You must have a lot of experience to qualify for the job.
109. You may arrange work hours to suit yourself.
110. You might sometimes say bad things about your co-workers.

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8

111. You can sometimes arrive late for work.
112. You go to work early in the morning.
113. The job requires that the worker possess social grace and charm.
114. Most of your co-workers are college graduates.
115. You must travel a lot by airplane and automobile in the job.
116. The job requires good hearing.
117. The income from the job will enable you to buy those things you want in life.
118. The ability to judge differences in detail in printed material is important.
119. You work in a resort area.
120. The work gives you opportunity to influence the way people think.
121. You work with physical objects rather than with people.
122. You compare data you collect with data gathered by others.
123. In the work, you do not have to be different from the group.
124. Through your work you have pleasant relations with other people.
125. You are not expected to do everything by the book.
126. Through the work you earn the admiration of many people.
127. If you wish, you may take work home to do at night.
128. It is a dependable job that you can count on.
129. Because of your work you are well liked by many people.
130. You learn a lot about yourself in the work.
131. Competition in the work is very strong.
132. In the job, you express your own creativity.

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133. You can sometimes take a day off, claiming sick leave when you are not really sick.
134. You go to work late at night.
135. Because of the job, you have to be concerned about what people think of your behavior during nonworking hours.
136. Opportunities on the job are open equally to men and women.
137. The work is performed in quiet surroundings.
138. Stooping and kneeling are necessary in your work.
139. An automobile is furnished by your employer.
140. Success on the job is closely related to achievement in school because both depend on the same sort of ability.
141. The work is performed in a hot climate.
142. It is a job in which you bargain or negotiate with people.
143. Your work is done with small tools.
144. You collect and evaluate information.
145. Your work is very closely watched.
146. Because of your work, people think of you as a "good" person.
147. In the job, you are on your own and self-directed.
148. Your work gives you control and influence over others.
149. Your company rewards high aspiration and hard work.
150. The work is free of emotional stress and worry.
151. The job pleases your friends and family.
152. You can learn much from your co-workers.
153. The work is high-paying, but may be temporary.
154. The job frequently requires you to use your imagination.

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10

155. You can sometimes put off until tomorrow work that really should have been done today.
156. You have no exact time to begin your workday.
157. Your age is a very important factor in getting the job.
158. Most of your co-workers are of the same sex as you.
159. You must speak more loudly than normal to be heard on your job.
160. You spend most of the workday sitting.
161. You get automatic increases in salary based on time with the company.
162. The job requires that you explain your ideas effectively to others.
163. You work in the downtown area of a large city.
164. You supervise people in the job.
165. You drive or operate machinery in the job.
166. You interpret information and facts to your employer.
167. Your work is rather routine.
168. In your work you accomplish what most other people could not.
169. It is a job in which you can fully develop all of your potential.
170. You could become wealthy from the job.
171. You can advance in the job by taking special training.
172. The job will enable you to be secure and meet all your obligations.
173. Through your work you make an important contribution to your community.
174. In the job, you can see how and why things fit together.
175. The work is exciting.
176. You must often think up new ways to do things.

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177. You can make some mistakes on the job.
178. The job gives you less than one hour for lunch.
179. Very good references are needed to get the job.
180. Some of your co-workers are lazy.
181. Wearing very fashionable clothes is necessary in your work.
182. Good vision is important in your job.
183. You get paid sick leave on your job.
184. The job requires you to have a special talent.
185. You work in a small farm community.
186. You entertain people as part of your job.
187. Using tools, you change the appearance of things in your work.
188. It is work in which you compile written and printed information.
189. In the job, you follow instructions rather than decide what to do yourself.
190. Your work makes the world a better place in which to live.
191. It is a job that allows you to develop a special talent to its fullest.
192. The job enables you to live in one of the best areas in town.
193. It is work that leads to accepting more and more responsibility.
194. Your work is predictable from day to day.
195. It is work where you feel you fit in and belong.
196. The work keeps you well informed.
197. In the job, you have to take chances to get ahead.
198. You are not closely supervised on the job.

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12

199. You cannot give the work your best effort every day.
200. The job leaves you the amount of free time you wish.
201. Special technical training or a college education is required for the work.
202. Some of the people you work with are less intelligent than you.
203. In your work you get rather dirty every day.
204. The work you do requires above-average physical strength.
205. The employer furnishes you with free life and health insurance.
206. It is important that you get along well with all kinds of people on your job.
207. You work in an area of dense population.
208. You sell things to people.
209. You use equipment to help you control the temperature, pressure, and flow of materials.
210. You compare data and facts with other people's opinions.
211. After going home, you don't have to think about your work.
212. You have a job in which you can achieve your ambitions.
213. It is work in which you can be your real self.
214. It is a job that enables you to own an expensive automobile.
215. You can gain promotions fast through hard work in your job.
216. The company has an organized and orderly procedure for getting the work done.
217. The job makes you feel worthwhile.
218. The job encourages you to satisfy your curiosity.
219. Strikes and layoffs are to be expected in the job.
220. In your work you can be different from others.

Score Descriptions

1

CI—Creativity, Independence. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you have freedom to use your imagination, your creativity, and your own ideas to perform the job. You would like to have little close supervision and be free to develop new ideas and to do things differently from your co-workers. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on the scale to be unimportant. Items on this scale are 1, 23, 45, 67, 89, 132, 154, 176, 198, and 220.

2

RI—Risk. A *stanine score of 7-8-9* on this scale indicates a strong need for work that involves excitement, pressure, competition, new situations, and even emergencies. You would risk bodily injury, sudden financial loss, or a strike or layoff to have the job. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 2, 24, 46, 68, 90, 131, 153, 175, 197, and 219.

3

IK—Information, Knowledge. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you accumulate and record information and knowledge and where your pay depends on your knowledge of the job. You would like to be able to satisfy your curiosity and increase your own knowledge by continued schooling, by searching for new truths in your work, or by learning from your co-workers. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 3, 25, 47, 69, 91, 130, 152, 174, 196, and 218.

4

BL—Belongingness. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you become a welcome member of a group or team and make friends with people on the job. You would like the approval of your employer, your family and friends, and your community. You want to feel that you are being treated like a person and that you are making a worthwhile contribution. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 4, 26, 48, 70, 92, 129, 151, 173, 195, and 217.

5

SE—Security. A *stanine score of 7-8-9* on this scale indicates a strong need for work that leaves you free from emotional stress and worry. You would probably like to work for a large, reliable organization that offers financial security, fair promotions, predictability, orderly procedures for getting the work done, and freedom from public criticism. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 5, 27, 49, 71, 93, 128, 150, 172, 194, and 216.

6

A—Aspiration. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you can gain fast promotions and success by determination and hard work. To succeed, you might be expected to do extra work without extra pay, work at home, move from town to town, or take special training. The job offers a chance to take on more and more responsibility, get rewards for good work, and even become part owner of the company. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 6, 28, 50, 72, 94, 127, 149, 171, 193, and 215.

7

ES—Esteem. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you gain a high position in your community and feel very successful. You would like to control and influence others through your work, gain admiration, publicity, important friends, and wealth. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on the scale were unimportant. Items on this scale are 7, 29, 51, 73, 95, 126, 148, 170, 192, and 214.

8

SA—Self-Actualization. A *stanine score of 7-8-9* on this scale indicates a strong need for work that allows you to express yourself and develop your own personality and talents. The job brings out the best in you, giving you a chance to use a variety of your talents and to learn new skills. You are self-directed and do not do everything by the book. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on the scale were unimportant. Items on this scale are 8, 30, 52, 74, 96, 125, 147, 169, 191, and 213.

9

SAT—Personal Satisfaction. A *stanine score of 7-8-9* on this scale indicates a strong need for a job that you like very much and that gives you more personal than financial rewards. You would like to feel pride in what you do, have pleasant relations with others, have others recognize the value of your work and see you as a good person, achieve your ambitions, and help make the world a better place to live. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 9, 31, 53, 75, 97, 124, 146, 168, 190, and 212.

10

RD—Routine-Dependence. A *stanine score of 7-8-9* on this scale indicates a strong need for routine work in which there is a set plan with few changes so that you don't have to think about the work as you do it and can forget about it when you go home. You would like work where you depend on someone else and on someone else's instructions and are closely watched. You might enjoy working on an assembly line. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 10, 32, 54, 76, 98, 123, 145, 167, 189, and 211.

11

DA—Data Orientation. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you deal with printed materials and data rather than with people. You would like to collect and evaluate information, make and record measurements and observations, compare your data with data gathered by others, compile written and printed information, interpret information and facts to your employer, and coordinate information between your office and others. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 11, 33, 55, 77, 99, 122, 144, 166, 188, and 210.

12

TH—Things Orientation. A *stanine score of 7-8-9* on this scale indicates that you have a strong need for work in which you make or work with physical objects. You would like to operate, adjust, or repair tools, machinery, or other equipment. You would like to work mostly with your hands and have the results of your work seen by others. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 12, 34, 56, 78, 100, 121, 143, 165, 187, and 209.

13

PE—People Orientation. A *stanine score of 7-8-9* on this scale indicates a strong need for work in which you spend most of your time with people, teaching and training, supervising, bargaining and negotiating, advising, entertaining, or selling. You would like a job that gives you a chance to influence the way people think and to get to know people very well. A *stanine score of 1-2-3* indicates that you have very little desire for a job as described above. A *stanine score of 4-5-6* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 13, 35, 57, 79, 101, 120, 142, 164, 186, and 208.

14

LO—Location Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about where the job is located: out-of-doors, in a hot climate, in the mountains, in the downtown area of a large city, in an area with heavy population or a high crime rate, in a small farm community, in a resort area, near good schools, or within easy visiting distance of your home town. Look at your response to each item to determine whether your strong feelings are negative or positive. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 14, 36, 58, 80, 102, 119, 141, 163, 185, and 207.

15

APT—Aptitude Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about the requirement of such work aptitudes as school achievement, common sense rather than special knowledge, above-average intelligence, expert skill or knowledge, special talent, accuracy in reading and writing, speed and accuracy with numbers, ability to judge differences in detail in printed material, ability to explain ideas effectively to others, and ability to get along with all kinds of people. Look at your response to each item to determine whether your strong feelings are negative or positive. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are: 15, 37, 59, 81, 103, 118, 140, 162, 184, and 206.

16

MON—Monetary Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about monetary work rewards: a small starting salary that increases rapidly, a good starting salary that increases slowly, pay increases that keep up with the cost of living, automatic increases based on time with the company, a smaller salary in your later years of work, enough income to enable you to buy what you want in life, an automobile furnished by the company, paid sick leave, free life and health insurance, and a good pension and retirement plan. Look at your response to each item to determine whether your strong feelings are negative or positive. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 16, 38, 60, 82, 104, 117, 139, 161, 183, and 205.

17

PHA—Physical Abilities Concern. A *stanine score of 7-8-9* on this scale indicates strong feelings about the physical abilities required in the job: moving fingers and hands with speed and accuracy, needing good physical balance and body coordination, having good hearing, good vision, and above-average physical strength, being able to stand, walk, stoop, kneel, sit, climb, and talk on the job. Look at your response to each item to determine whether your strong feelings are negative or positive. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 17, 39, 61, 83, 105, 116, 138, 160, 182, and 204.

18

EN—Environment Concern. A *stanine score of 7-8-9* on this scale indicates strong feelings about such factors of the work environment as whether or not you work alone, the surroundings are quiet and free from pollution, music is played in the background, you must speak more loudly than normal to be heard, smoking is allowed, there is air conditioning, you travel by airplane or automobile, you must wear fashionable clothing, and you get rather dirty every day. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 18, 40, 62, 84, 106, 115, 137, 159, 181, and 203.

19

CW—Co-worker Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about whether your co-workers are high-school graduates, college graduates, stimulating, less intelligent than you, lazy, younger than you, people of different races, single or married, men or women. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 19, 41, 63, 85, 107, 114, 136, 158, 180, and 202.

20

Q—Qualifications Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about such work qualifications as whether previous experience is required, high-school education is sufficient, special technical training or a college education is needed, a special examination must be passed, good references are needed, union membership is required, your age is an important factor in getting the job, you must possess quite a bit of social grace and charm, and you must be concerned about what people think of your behavior during nonworking hours. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 20, 42, 64, 86, 108, 113, 135, 157, 179, and 201.

21

T—Time Concern. A *stanine score of 7-8-9* on this scale indicates that you have strong feelings about such time aspects of your work as whether there are seasonal peak and slack periods, you are employed only nine months of the year, you may have time off whenever you like, you can arrange work hours to suit yourself, you have regular hours that allow you to plan your home life exactly, you go to work early in the morning, you work late at night, you have no exact time to begin, you have less than one hour for lunch. A *stanine score of 4-5-6* indicates that you had mixed feelings about items on this scale. A *stanine score of 1-2-3* indicates that you felt most of the items on this scale were unimportant. Items on this scale are 21, 43, 65, 87, 109, 112, 134, 156, 178, and 200.

22

DF—Defensiveness. A *stanine score of 8 or 9* on this scale indicates that you tended not to record your real feelings when responding to the inventory items. Perhaps your item responses were influenced by someone else's expectations of you, or you may have misunderstood the directions, or been very careless in marking your response sheet. A *stanine score of 1 through 7* on this scale indicates that you tended to record your real feelings when responding to the inventory items. Items on this scale are 22, 44, 66, 88, 110, 111, 133, 155, 177, and 199.

APPENDIX N

SCORE CONVERSION SCALE FOR FINAL TESTING INSTRUMENT

QUESTION	STUDENT #	SUCCESS PER HOOI	TYPE OCCUPATION	NUMERICAL RATING
1	1	YES	Nontraditional	6
1	2	NO	Traditional	0
2	3	NO	Nontraditional	0
2	4	YES	Traditional	6
3	5	YES	Traditional	3
3	6	YES	Nontraditional	4
4	7	NO	Traditional	1
4	8	NO	Nontraditional	2
5	1	YES	Nontraditional	4
5	3	NO	Nontraditional	0
5	5	YES	Traditional	3
5	7	NO	Traditional	0
6	2	NO	Traditional	0
6	4	YES	Traditional	3
6	6	YES	Nontraditional	4
6	8	NO	Nontraditional	0
7	3	NO	Nontraditional	2
7	7	NO	Traditional	1
8	2	NO	Traditional	1
8	8	NO	Nontraditional	2
9	4	YES	Traditional	3
9	6	YES	Nontraditional	4
10	1	YES	Nontraditional	4
10	5	YES	Traditional	3

Lowest Score Possible = 12 Highest Score Possible = 38

Selection of YES (Between YES/NO combination) = 6
Selection of YES (Nontraditional) = 4
Selection of YES (Traditional) = 3
Selection of NO (Nontraditional) = 2
Selection of NO (Traditional) = 1
Selection of NO (Between YES/NO combination) = 0

NOTE 34 to 38 acceptable score based on the HOOI supportive data